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ABSTRACT

This entry was submitted by West Chester State College, West Chester, Pennsylvania, for the Distinguished Achievement Award Competition sponsored by the American Association of Colleges for Teacher Education. The Office of Student Teaching at West Chester sponsored nine monthly sessions designed to help student teachers, classroom and cooperating teachers, supervisors, college instructors, and other personnel to analyze their respective teaching and learning situations. The purpose of the sessions was twofold: (a) the positive modification of teaching behavior in the larger educational community and (b) the extension of its service to all segments of the educational community. Each session concentrated on a particular skill and the participants became involved in actual teaching-learning situations. The topics of these sessions were nonverbal communication in the classroom, interaction analysis in the classroom, inquiry, computer test analysis, analysis of teaching by video tape, intergroup approach to education in a multi-ethnic society, conservation and outdoor education, technical skills in teaching, and the affective domain in the classroom. Nine elementary and secondary student teaching supervisors conducted the sessions. (The report contains description of each of the topics along with specific objectives. Nine appendixes included guidelines for the topics discussed.) (BRB)

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CONTEMPORARY TRENDS IN TEACHING

West Chester State College

SP 006 225

PART I

Summary of the Program

West Chester State College is currently celebrating its 100th year of service to the teaching profession. Part of this celebration involves the presentation of nine Coffee Hours sponsored by the Office of Student Teaching at the College. Entitled "Contemporary Trends in Teaching," the Coffee Hours provide an overview of innovative practices designed to help student teachers, classroom teachers, cooperating teachers, supervisors, college instructors and other interested personnel to analyze their respective teaching and learning situations. The participants come to the college one afternoon a month for nine consecutive months to enjoy some refreshements and, in an informal way, take part in each session.

Each session concentrates on a specific skill area. All sessions are interaction sessions to the extent that each session leader, an expert in his particular field, gets each participant involved in an actual teaching-learning situation. The title of each Coffee Hour follows:

Non-Verbal Communication in the Classroom
Interaction Analysis in the Classroom
Inquiry
Computer Test Analysis
Analysis of Teaching by Video Tape
Intergroup Approach to Education in a Multi-Ethnic Society
Conservation and Outdoor Education
The Technical Skills of Teaching
Affective Domain in the Classroom

Through these Coffee Hours, the Office of Student Teaching as part of West Chester State College hopes to do two things: (1) modify teaching behavior in the larger educational community in a positive way and (2) extend its services to all segments of the educational community. Too often, colleges and universities fail to serve the larger educational community. West Chester recognizes this responsibility and through the Coffee Hours aims to fulfill it.

PART II

Description, Development, and Objectives

For four years, student teachers at West Chester State College have met in a two-hour, weekly practicum at the college. During these practicums, supervisors work as a team teaching the student teachers new skills and strategies which are critical to the teaching process and which ought to be incorporated into the student teacher's behavior. The skills and strategies incorporated into the student teacher's behavior are described in the paragraphs below.

With this experience as a background, the supervisors and the office of student teaching felt that these skills and strategies ought to be made available to the wider education community. As a result, the Coffee Hours were designed and the description, development and objectives of each Coffee Hour are outlined below.

Non-Verbal Communication In the Classroom

Objective - Thru observation and participation in demonstration and discussion, students will be aware of the importance of non-verbal behavior and how to utilize it in encouraging communication in the teaching-learning situation.

The group is divided into two control groups. One group becomes the instructor's classroom. The second group becomes the observers describing what is happening, the teacher's role, the feelings of the observers. The instructor initiates discussion with the group using narrow questions, giving facts, criticizing contributions, rejecting ideas and behavior, using all communications, both verbal and non-verbal, to limit the movement of the group and create an inhibiting negative climate.

The group then reverse roles and the instructor initiates a discussion making the purpose clear, accepting, helping, listening, giving

corrective feedback, sharing experiences and using all communications, both verbal and non-verbal, to encourage movement of the group and create a climate of positive support.

Observations are then shared with special attention given to the feelings of participants, skills and techniques that were used by instructor to inhibit or encourage effective communication, and evaluation of group involvement in the total process. (See Appendix I)

Interaction Analysis In The Classroom

The Flanders Amidon Interaction Analysis is one of the many paper-pencil feedback systems that attempts to describe verbal interaction in the classroom. A simulation situation is used to have the Coffee Hour participants "discover" the Flanders categories. After an interaction session using the categories, with a list of the categories, their descriptions and a tally sheet, each participant tallies two three-minute videotaped classroom situations so that the participant can perceive the ease with which the system can be learned and used. A matrix shows the depth of analysis provided from the easily obtained descriptive information. Through simulation and role playing micro classroom situations as a part of dyads, each participant is able to perceive the difficulty in controlling his own behavior and so being able to change classroom behavior. The interaction analysis system is introduced as a tool for implementing the definition of a professional teacher as one who has the skills and competencies to analyze a learning situation, prescribed behavior changes needed in the learner, and by controlling and changing the teacher's behaviors, cause the prescribed learner behavior changes to occur.
(See Appendix II)

Inquiry

At this Coffee Hour it is hoped that we might instill in the teaching-learner interaction process a more concerted effort towards developing the kinds of intellectual behavior in both student & teacher which might more likely train students to "think".

Towards this end various materials concerned with "Inquiry" - "Questioning Thinking" are presented to the participants.

Interaction between participants are encouraged and a discussion followed evaluating present "Questioning Technique" based on Saunders taxonomy from his test "Classroom Questions What Kinds?"

An explanation was given of what W.C.S.C. Student Teaching Supervisors have done towards accomplishing this goal of having our student teachers become more proficient in the out of Questioning and the results of our sessions on changing teaching behavior. (See Appendix III)

Computer Test Correct

An examination covering all levels of Bloom's taxonomy is administered to all Coffee Hour participants. The examination, although short, demonstrates the power and quality that can be built into an objective type examination. Participants record their answers using a No. 2 pencil, onto the digitek answer sheets provided. Participants then brought into the computer center where they witness the Optical Scanner convert the answer sheets to punch cards and then watch the computer, IBM 360/30, execute a program which scores and which also provides an item analysis for their examinations.

The computer output is then examined by the participant such as item difficulty, item discrimination, test reliability, and frequency distribution, etc. are discussed. At this time, all participants are encouraged

to use this method for administering tests as the college computer center is available to them for this purpose. (See Appendix IV)

Analysis of Teaching by Videotape

"Analysis of Teaching by Videotape" presents a method of self-evaluation to a group primarily composed of elementary and secondary teachers. To highlight some of the techniques which could be used by video tape in the classroom, Dr. Harry H. Deischer introduces the topic both on tape and live. To encourage the group to evaluate their own lessons by having them taped, a mathematics teacher from a local junior high school evaluates, along with his principal, a tape of one of his lessons. As the concluding episode of the presentation, almost all participants are presented with situations which are solved in front of the television cameras. These sequences are then replayed so that the participant can judge how he handled the situation. (See Appendix V)

Intergroup Education in a Multi-Ethnic Society

Intergroup Education is concerned with the development of positive attitudes and behavior between and among the various ethnic, religious, and socio-economic groups with particular emphasis on Black-White relations. Because of the limited time available for a presentation during the Coffee Hour, only a cursory glance at this ever-widening field can be provided.

The need for programs in Intergroup Education has been voiced on the national level through various government documents (U.S. Commission on Civil Rights Report of 1971, Coleman Report, etc.) and from national office of the major religious, labor and civic organizations. The need has also been voiced by state and local governments as well as by our professional organizations.

During the presentation suggestions are given as to possible approaches toward developing a program in intergroup education. Demonstrations of techniques that can provide both cognitive and affective experiences in this area are given. A display of multi-ethnic materials provide the setting for this particular Coffee Hour. Bibliographies and lists of resources are distributed. A discussion as to the feasibility of utilizing various techniques in specific situations follow the demonstrations. Suggestions from the participants as to other possible approaches and techniques they may have found to be successful conclude this presentation. (See Appendix VI)

Conservation and Outdoor Education

Conservation and Outdoor Education is an interdisciplinary encounter of the learner with his environment. In the "Coffee Hour" the the participants will learn of the philosophy underlying the concept of environmental studies. In an informal setting, involving learning centers, this philosophy will be apparent to the individual as he seeks to know particular possibilities in his fields for the use of the out-of-door in the teaching-learning experience. Learning experiences are presented through slides and audio tapes. Practical aspects for the development of a practical interdisciplinary approach to planning for outdoor education.

New to the West Chester State College is the endorsement program in Interdisciplinary Conservation-Outdoor Education. Fulfilling course requirements in four basic courses and six semester hours of electives chosen from courses in four curricular areas qualifies the student for an endorsement in Conservation-Outdoor Education. Students learn of this program for their future course planning at the Coffee Hour.

Handouts describing program possibilities and resources can be selected by the "participants". These persons may consult with two Professors

and resource persons in the field. (See Appendix VII)

The Technical Skills of Teaching

The use of technical skills in teaching are directed toward improvement in general teaching characteristics by removing tasks related to job performance and emphasizing tasks critical to job performance. Such critical skills as establishing set, reinforcement, probing, varying the stimulus situation, and the use of closure are emphasized in the Coffee Hour.

The objective of the technical skills interaction session is to have the participants to be able to identify and analyze those technical skills used by the session leader. In order to attain this objective, the participants act the part of students in two micro-lessons. The first lesson presents a review of punctuation without using the skills mentioned above. The second lesson presents the same review using the skills mentioned above. Participants are then asked to identify those skills which were used in the second lesson but not used in the first. Participants also are asked to analyze each skill in order to point out explicitly how each leads to an improvement in teaching. Thus the teaching behaviors presumed to be important in classroom interaction are described in behavioral or performance terms. (See Appendix VIII)

Affective Domain In The Classroom

To provide the participants with an experience in interaction in the affective domain, the valuing process as described by Louis E. Raths, Merrill Harmin, and Sidney Simon in Values and Teaching was used. What one does with the limited time and energy are criteria for describing his real values. Values are choosen freely, from alternatives after careful consideration of the consequenses of each alternative. Prizing, cherishing, affirming, acting upon choices, and repeating behaviors are further indicators of values. Each participant was asked to confidentially write answers to a series of questions designed to help him clarify for himself his values. An interaction session on the conclusions of the questioning experience followed. Then value sheets and strategies for causing interaction with the valuing process in the classroom were sampled by the participants to provide the means for intervention in their teaching. (See Appendix IX)

Personnel

Nine full-time elementary and secondary student teaching supervisors conduct each session either singly or in teams of two or three. Each supervisor is a professor in the School of Education and has extensive graduate training and experience in his particular field.

Budget

The nine Coffee Hours cost a total of $155.00 for refreshments and incidentals. All money was donated by the Centennial Committee of the college. Facilities for the Coffee Hours were furnished by the college.

Evaluation Procedure

Though there is no formal evaluation procedure, the effect of the Coffee Hours in changing the participants behavior can be informally evaluated. While out in the surrounding schools, supervisors can observe student teachers, cooperating teachers and classroom teachers at work. The effect of the Coffee Hours upon the teaching behavior of the three groups mentioned above can be observed during these visits. Since it is still early in the year as this is being written, little can be reported in the way of results at this time.

How the Program Contributes to the Improvement of Teacher Education

This series of Coffee Hours is designed to change in a positive way the teaching behavior of the student teacher and those professional personnel who surround him out in the public schools. Since the pivotal person in the student teacher, cooperating teacher, supervisor relationship is the cooperating teacher, it is most important to help him become more competent in his job and therefore increase the teaching proficiency of the student teacher. These Coffee Hours attempt to attain that goal through what the Office of Student Teaching thinks is a unique approach.

Centennial 1871-1971

West Chester State College
West Chester, Pa. 19380

In Celebration of One Hundred Years of Contributing To Excellence in Teaching

The West Chester State College
Office of Student Teaching
Invites you to attend
A Series of Coffee Hours
To Discuss
Contemporary Trends in Teaching

Coffee 2:30 p.m. -- Interaction 3:00 p.m.
The Learning Research Center
High Street and Rosedale Avenue

September 21	Classroom Non Verbal Communication by Mrs. Joan Hasselquist
October 12	Classroom Interaction Analysis by Miss Shirley Walters
November 16	Inquiry by Dr. Harry Deischer, Mr. James Brice, Miss Shirley Walters
December 7	Computer Test Analysis by Mr. Wesley Fasnacht
January 25	Analysis of Teaching by Videotape by Dr. Harry Deischer
February 15	Intergroup Approach to Education in a Multi-Cultural Society by Mr. Philip Hoggard
March 7	Conservation Outdoor Education by Mr. John Holingjak, Mr. John Grafton
April 18	Technical Teaching Skills by Mr. Charles Good
May 8	Affective Domain in the Classroom

ALSO

The Eastern Region Conference of the Pennsylvania Association of Teacher Educators, October 21-22, West Chester State College, Contemporary Trends in Teaching.

"Speak Your Piece: New Trends in Educational Thought," a conference sponsored by the School of Education and the Student PSEA, October 28, 29, West Chester State College

HOSTS: Supervisors of Student Teaching

Dr. Mark M. Evans
Director of Student Teaching

Mrs. Ruby Jones
Chairman, Centennial Committee

for further information call 436-2936

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APPENDIX I

IMPROVING NONVERBAL COMMUNICATIONS

from

Teaching is Communicating

by

Charles M. Galloway

When a teacher concerns himself with nonverbal language, he takes attitude toward the importance of what people do. The requirements of taking nonverbal cues seriously implies a willingness to be open and to act more intelligently in any interpersonal situation. Above all, it frees the person to understand more meaningfully and to accept more openly the difficulties of what it means to be human in any cultural setting. By having more information about their nonverbal patterns rather than less, the teacher is free to behave in his own best interests and to enable students to do likewise.

When looking at the influence of teacher's nonverbal behavior with pupils, it is useful to view a teacher's behavior on a continuum which ranges from encouraging to restricting of communication. This conceptualization reflects a process point of view: an action system of behaviors that exist in dynamic relationship to the continuing influence of the teacher and pupil in interaction with each other. It utilizes these categories.

ENCOURAGING COMMUNICATION

1. Enthusiastic Support: Enthusiastic approval, unusual warmth, emotional support, or strong encouragement. A smile or nod to show enjoyment, pleasure, or satisfaction. A pat on the back, a warm greeting of praise, or any act that shows obvious approval and support.

2. Helping: A spontaneous reaction to meet a pupil's request, help a pupil, or answer a need. A nurturant act. A look of acceptance and understanding of a problem, implying "I understand," or "I know what you mean," and followed up by appropriate action. An action intended to help. A tender, compassionate, or supportive voice. Or a laugh, a vocalization that breaks the tension.

3. Receptivity: Willingness to listen with patience and interest to pupil talk. By paying attention to the pupil, the teacher shows interest, implying that "lines of communications are open." He maintains eye contact, indicated patience and attention, suggests a readiness to listen or an attempt at trying to understand. A pose or stance of alertness, readiness, or willingness to have pupils talk. A gesture that openly or subtly encourages the pupil to continue: "Yes, yes" (um-hm), "Go on," "Okay," "All right," or "I'm listening." Such vocalization supplements and encourages the pupil to continue.

4. Pro Forma: A matter of form or for the sake of form. Whether a facial expression, action, or vocal language, it neither encourages nor inhibits communication. A routine act in which the teacher does not need to listen or to respond..

INHIBITING COMMUNICATION

5. Inattentive: Unwillingness or inability to be attentive. Disinterest or impatience with pupil talk. Avoidance of eye contact. Apparent disinterest, impatience, unwillingness to listen. Slouchy or unalert posture. "Don't care attitude," the ignoring of pupil talk. Stance indicating internal tension, preoccupation, or concern with own thoughts. A hand gesture to block or terminate pupil talk. Impatience, or "I want you to stop talking."

6. Unresponsive: Failure to respond when a response would ordinarily be expected. Egocentric behavior, openly ignoring need, insensitive to feeling. An obvious denial of pupil feelings, noncompliance. Threatens, cajoles, condescends. Withdrawing from a request or expressed need of a pupil. Disaffection or unacceptance of feeling. A gesture suggesting tension or nervousness. Obvious interruption and interference.

7. Disapproval: Strong disapproval, negative overtones, disparagement, or strong dissatisfaction. Frowning, scowling, threatening glances. Derisive, sarcastic, or disdainful expression that "sneers at" or condemns. Physical attack or aggressiveness --a blow, slap, or pinch. A pointed finger that pokes fun, belittles, or threatens pupils. Vocal tone that is hostile, cross, irritated, or antagonistic. Utterance suggesting unacceptance disappointment, depreciation or discouragement.

COMBINING VERBAL AND NONVERBAL

A number of observational systems for examining teacher verbal behaviors have been developed in recent years. The Flanders system of Interaction Analysis has enjoyed perhaps the widest acceptance and utilization. The categories of the Flanders system in their briefest form can be identified as follows: (1) accepts student feeling; (2) praises or encourages; (3) uses student idea; (4) asks questions; (5) lectures; (6) gives direction; (7) criticizes or justifies authority; (8) student response; (9) student-intiated talk; (10) silence or confusion.

Many teachers apparently accept student feelings, offer praise or encouragement, or criticize students by means of either simple or elaborate patterns of nonverbal cues. Face-to-face verbal communications are always accompanied by nonverbal cues. By the fact of physical presence, this situation cannot be avoided. Expressions of behavioral style during human contacts make a difference and can be understood. Whether teacher influence is direct or indirect, it is the unique combination of verbal and nonverbal information that influences meaning.

Category 1 (accepts student feeling) requires both verbal and nonverbal behaviors. These behaviors are closely related, but the meaning of the words depends on how they are said. The verbal statement, "I know how you feel," can sound empty. Indeed, the verbal characteristics are more hazardous to defend than the nonverbal qualities. Nonverbal nods and glances can be quite accepting, while verbal responses clarify feelings. It is not difficult to determine whether the teacher does or does not accept student feeling, but an observer needs more than verbal information. Accepting student feeling is jointly verbal and nonverbal.

Category 2 (Praises or encourages) implies a nonverbal dimension of congruency or incongruenc Congruency occurs when teacher nonverbal cues and verbal messages are consistent. The fidelity of teacher praise is clear and believable. Nonverbal cues reinforce the verbal message so that it is unambiguous. When a discrepancy or contradiction appears between verbal and nonverbal cues, there is an incongruity. Praise and encouragement are demanding behaviors for teachers, and incongruities occur most frequently when praise is given perfunctorily. Sarcasm and insincerity are other forms of incongruity.

The nonverbal consequences of Category 3 (uses student idea) involve two primary ways in which teachers respond to students. Teachers may merely recognize or acknowledge student expression by atuomatically repeating or restating it. Teacher use of student ideas in this way is perfunctory. Conversely, a teacher may respond by using a student's idea in subsequent discussion, he may react to an idea by reflecting on it, or he may turn the idea

to the class as worthy of discussion. Teacher response of this kind can be distinguished from mechanical acknowledgment of student ideas and can be understood as truly using of implementing ideas. While nonverbal cues are always present, they are less apparent in a mechanical response. Routine recognition of a student idea undoubtedly provides steady reinforcement, but the active involvement and partial reinforcement provided by implementing student ideas in discussion is important to fostering open communication and classroom learning.

Category 4 (asks questions) can be personal or impersonal. Personalizing questions requires a sense of nearness and proximity; the teacher has a personal involvement in meaningful exchange. Impersonal question-asking conveys detachment, aloofness, and a sense of distance.

In lecturing or giving information (Category 5), a teacher can be responsive or unresponsive to student behavior. The key factor is teacher sensitivity to his own behavior while talking to students. If pupils indicate they are restive, bored, disinterested, or inattentive, the teacher needs to change the pace or direction of his own talk. Or perhaps to stop talking. Teacher talk that continues in the face of unreceptive student behavior is unresponsive to behavioral feedback.

Category 6 (gives direction) is viewed as behaviors that involve or dismiss students. Teacher directions can involve students in a clarification of expectations, or they can be used to control student behavior. Facilitating directions convey the idea that learning is a joint venture in which both pupils and teacher have a mutual purpose. Dismissing directions are punitive; the notion is communicated that the teacher would rather control than clarify.

The dimension of firm or harsh helps to qualify Category 7 (criticizes or justifies authority). Firm criticisms can evaluate a situation cleanly and crisply and clarify expectations. They lack the hostility, severity, and indignity of harsh criticisms and are devoid of the aggressive or defensive behaviors criticisms can sometimes yield. Differentiating between firm or harsh criticisms and authoritarian justifications clarifies an important difference in classroom life.

Flanders separates student talk into two categories--response to teacher (Category 8) and student-initiated talk (Category 9). One nonverbal dimension is appropriate to both categories, for teacher behavior during student talk can be receptive or inattentive. Receptive teacher behaviors reflect attitudes of listening and interest, facial involvement, and eye contact and suppression of teacher distraction and egoism. Inattentive teacher behaviors generally involve a lack of eye contact and extraneous teacher travel or movement.

Category 10 (silence or confusion) possesses little inherent value in the Flanders system. Yet, there are different kinds of silence and confusion. The dimension of comfort or distress is useful for recording a distinction. Comfortable silences are characterized by times of reflection, thought, or work. Distressing moments are produced by embarrassment or are tension-filled times. Comfortable periods of confusion are those in which students are stimulated or exhibit excitement, while distressing instances reflect disorganization and disorientation. Nonverbal cues set the stage for either comfortable or distressful classroom occurrences.

The observation system for combining the verbal and nonverbal is presented in a simpler form below:

Indirect-Direct (Verbal)	Encouraging-Restricting (Nonverbal)
Accepts student feeling	
Praises or encourages	Congruent-Incongruent
Uses student idea	Implementing-Perfunctory
Asks questions	Personal-Impersonal
Lectures--give information	Responsive-Unresponsive
Gives direction	Involving-Dismissing
Criticizes or justifies authority	Firm-Harsh
Student talk (response)	Receptive-Inattentive
Student talk (initiated)	Receptive-Inattentive
Silence or confusion	Comforting-Distressing

Given an understanding of the rationale and background of this system, an observer can record in verbal and nonverbal categories. This system is designed to enable an observer to use the categories, time intervals, and ground rules of the original Flanders system while recording the nonverbal dimensions as well. By marking a slash (encouraging) or dash (restricting) to the right of recorded tallies, an observer can record both the verbal and nonverbal dimensions. A circled number is used to enclose the talley when teacher behavior is solely nonverbal.

APPENDIX II

EXTENDED CATEGORIES FOR INTERACTION ANALYSIS

Journal of Teacher Education Summer 1969

TEACHER TALK CATEGORIES	INDIRECT	Category 1 - acceptance and clarification of student feelings.
		Category 2 - praise, verbal reward and encouragement of students.
		Category 3 - acceptance and clarification of student ideas.
		Category 4 - asking questions of the students.
	DIRECT	Category 5 - giving substantive and procedural information.
		Category 6 - answering student questions.
		Category 7 - giving directions and commands to students.
		Category 8 - criticizing or justifying authority to students.
		Category 9 - giving corrective feedback to students.
	STUDENT TALK CATEGORIES	Category 10 - student talk in response to the teacher.
		Category 11 - student talk emitted spontaneously by the student.
		Category 12 - student questions to the teacher.
	OTHER	Category 13 - silence and confusion.

There is NO scale implied by these numbers. Each number is classificatory t designates a particular kind of communication event. To write these numbers down during observation is to enumerate, not to judge a position on a scale.

Teachers often reject pupil initiated comments, and the result is that most youngsters learn not to initiate conversation with teachers. Perhaps teachers feel uncomfortable about having thier plans take an unexpected turn, and so they unconsciously teach children that initiation comes from the teacher, not from pupils.

Respond to the following pupil-initiated statements with acceptance:

Teacher Open your spelling books to page 40.
Pupil You said we could work on our stories today.

Teacher Jane, would you take this to the office?
Pupil Why does Jane always get a turn?

Pupil Why do you always wear that sweater?

Pupil How old are you?

Pupil Do you smoke?

Pupil I liked science better last year

Pupil You don't make your "g's" the right way.

When pupils give answers or make statements which are silly, or which teachers regard as impertinent, there are several ways to respond. It is probable that most teachers respond with rejection, but the teacher who laughs with the class when a student does this - which is equivalent to accepting the feeling of the class - and then accepts that part of the answer which is sensible has used a powerful alternative.

Extend the following teacher-pupil exchanges by having the teacher respond without rejection:

Teacher Who knows why we celebrate Washington's birthday?
Pupil Because we don't have to come to school that day.

Teacher Why are we going on this trip?
Pupil Because we paid for the bus.

Teacher Why should you be quiet in the halls?
Pupil So Mr. Jones won't holler at us.

Teacher What's the best way to travel from here to Texas?
Pupil By Pony Express.

Teacher Let's open our books to page 10.
Pupil Let's close them on page 10, instead.

Usually answers contain something in them that is correct or logical. When giving corrective feedback or leading students toward appropriate responses, it may be helpful to accept that part of the student's statement which makes sense. For instance, if a student reads the word 'while' as 'white,' the teacher might say, "These words do look quite a bit alike, but 'white' has one letter in it which 'while' does not. What is it?" and then lead the student to correct his own mistake. It is often good pedagogy to help a student correct his own error, instead of calling on another student who already knows the answer. In fact, calling on someone else may be harmful to the student who has made the error.

Change the following teacher comments so that they accept what is logical in the pupil's statement, and then add statements that will help the child arrive at a more appropriate response or explain the reasons for his response.

Student That word is "Daddy."
Teacher If you were looking, you would know it said "Father."

Student Three times three is six.
Teacher Who can help Jane?

Student In the summer the sun is closer to the earth.
Teacher If you had read the chapter carefully you would not give the wrong answer.

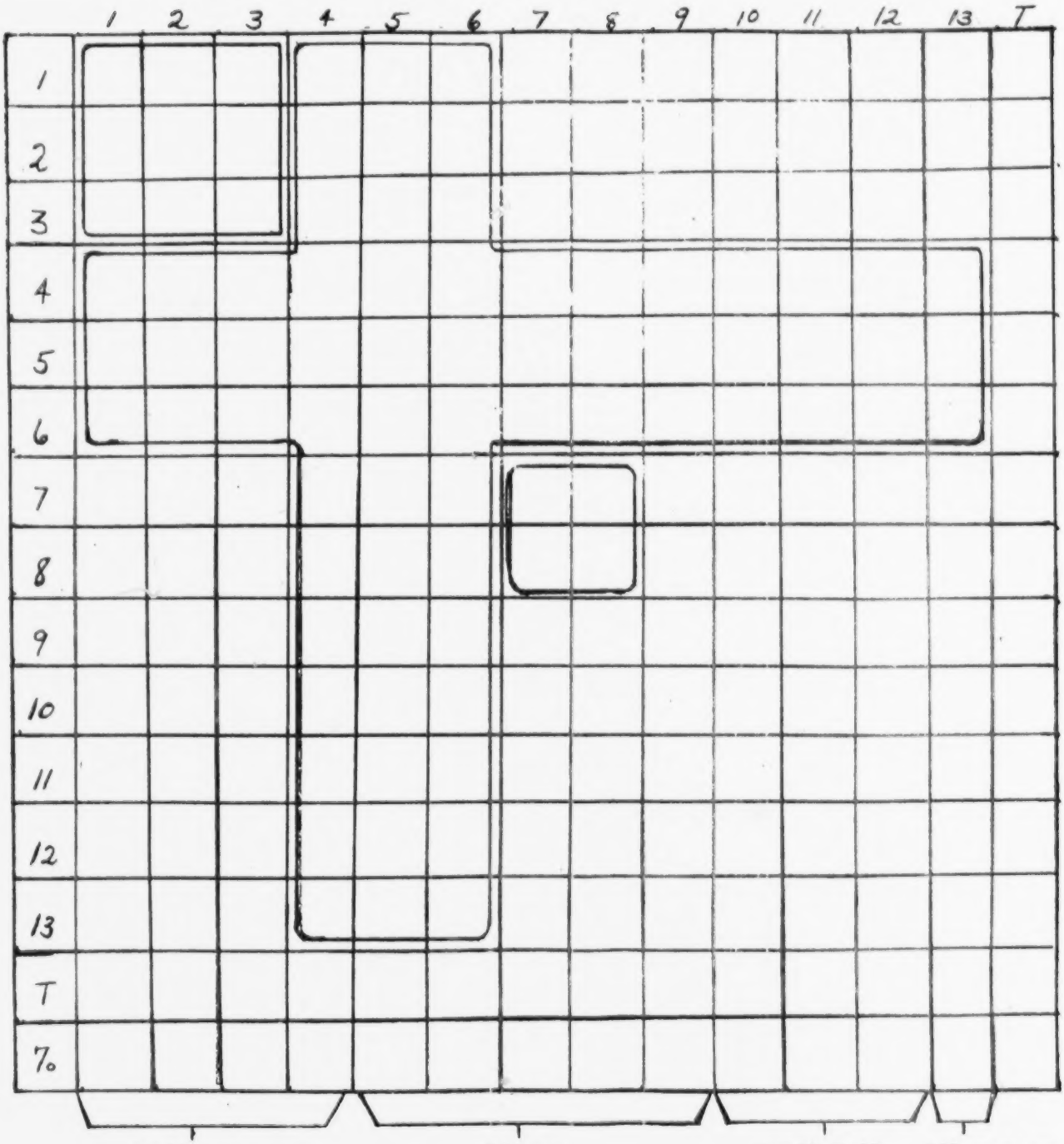
Student A rectangle is the same as a square.
Teacher A square has four equal sides.

Student To lecture is to scold someone.
Teacher That's not what the word means here.

Student There are twleve hours in a day.
Teacher No. There are twenty-four hours in a day.

Teacher _____
Class _____
Date _____
Objectives:

Teacher Talk:
Indirect _____% _____%
Direct _____%
Pupil Talk _____%
Silence or Confusion _____



Indirect | Direct | Pupil Talk | Silence or Confusion

Teacher Talk

I/D =
I/I+D=
i/d =
i/i+d=

Steady State Cell:
Teaching Pattern

13	4	10	7	3
7	11	5	7	4
7	6	5	11	10
7	4	5	11	10
12	10	5	13	10
12	10	4	8	2
8	10	10	8	3
8	2	4	8	3
8	3	10	8	4
7	3	4	8	4
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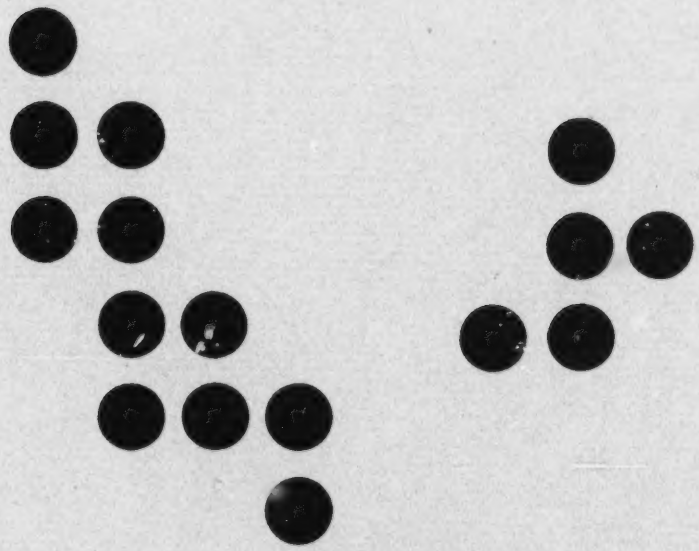
APPENDIX III



FRONTIERS OF THINKING

A Faculty Publication
William M. Stewart School
University of Utah

FRONTIERS OF THINKING

Identifying the Range of Mental Processes Hierarchical Schema, Definitions and Illustrations

A Faculty Publication
William M. Stewart School
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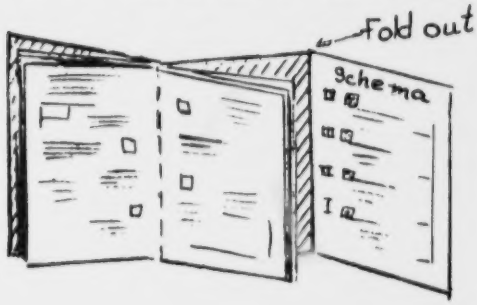
Schema of Mental Processes ..... Fold-out sheet

Fold out back cover to show schema



How to Use This Pamphlet

Fold out back cover to show schema

The sample assignments and questions do not represent a recommended sequence in a single lesson or in a series of lessons; each sample stands on its own as an illustration.

It is clear that mental activity at Level II requires and includes mental activity at Level I; and that mental activity at Levels III and IV is only possible as the lower levels are used. Higher levels of mental activity include those lower, but the reverse is not true.

Introduction

This product grew out of two years of cooperative faculty study seeking ways to identify teaching behavior which could facilitate pupils' use of a wider variety of their mental powers. The faculty selected this as an area for study because several recent investigations and many writers in the field conclude that typical school work too often requires of pupils mental efforts which are restricted to simple recognition and recall. Contrasting, comparing, inferring, generalizing and other higher order mental activities are believed to be seldom required by pupils in the ordinary classroom.

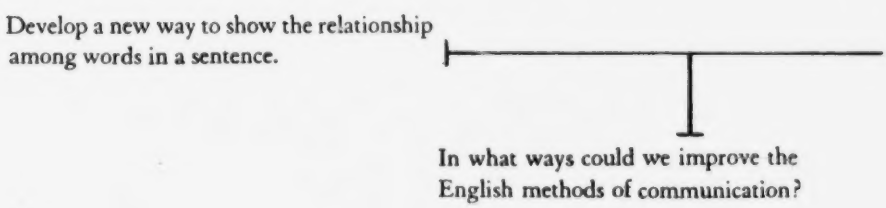
The higher mental processes identified in our schema and which are given formal definitions represent only one way of structuring this field. Rather than higher mental processes, these mental activities could perhaps as well have been called reasoning processes, thinking processes or cognitive processes. There are many other important formulations some of which can be found in the references listed.

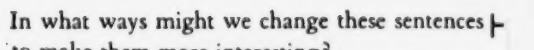
We think our schema is a useful way to view mental activity, but we are aware that there is some overlapping of meaning from one term to another and even from one level to another. Yet lacking is a fully satisfying degree of internal consistency among the terms and levels on the one hand, and mutual exclusion on the other. However, this fault is not peculiar to our schema, for the field is badly scrambled; definitive work is only now emerging.

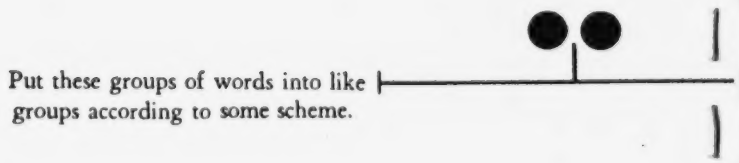
The main sections attempts to indicate kinds of assignments in various areas of the curriculum which teachers might utilize or questions they might ask which probably require pupil mental activity at the various levels in the schema. Interspersed are our statements of belief which should serve to make our assumptions more explicit.

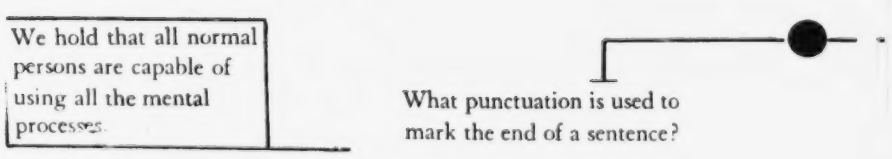
Understanding the English Sentence

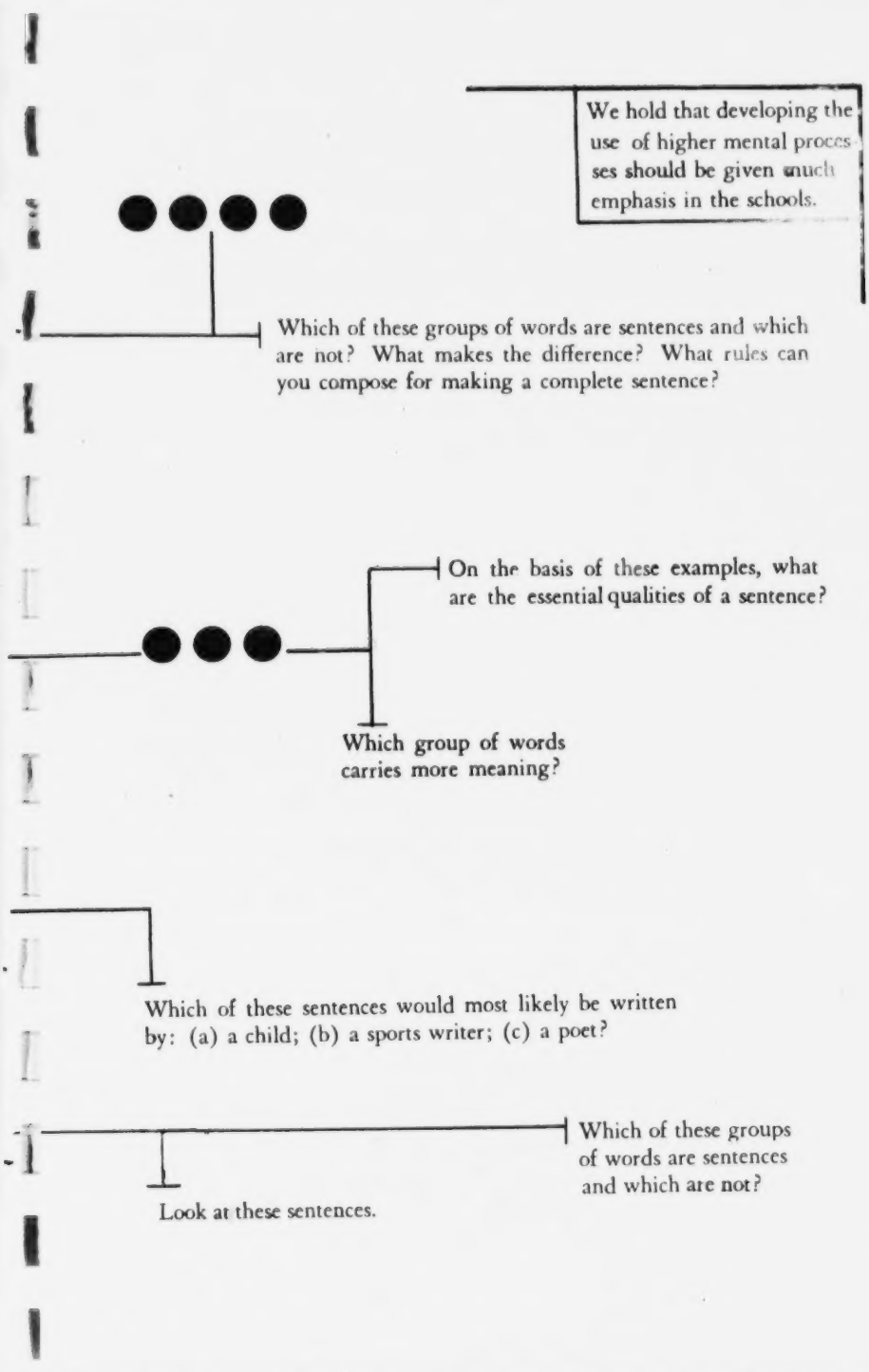
Teacher assignments or questions which seem to evoke pupil mental activity at various levels in the schema.


Develop a new way to show the relationship among words in a sentence.
In what ways could we improve the English methods of communication?






We hold that all normal persons are capable of using all the mental processes.
What punctuation is used to mark the end of a sentence?


We hold that developing the use of higher mental processes should be given much emphasis in the schools.
Which of these groups of words are sentences and which are not? What makes the difference? What rules can you compose for making a complete sentence?
On the basis of these examples, what are the essential qualities of a sentence?
Which group of words carries more meaning?
Which of these sentences would most likely be written by: (a) a child; (b) a sports writer; (c) a poet?
Which of these groups of words are sentences and which are not?
Look at these sentences.

Understanding Constitutional Government

Teacher assignments or questions which seem to evoke pupil mental activity at various levels in the schema.

(a) We hold that the use of higher mental processes is an important aspect of learning.

(b) We hold that higher mental processes are self-motivating.

(c) We hold that the exercise of higher mental processes stimulates personal involvement.

Here are six different constitutions. Rate them from good to poor. Give your criteria.

What would life in Utah be like if the U.S. Senate were the only legal body that could make changes in the U.S. Constitution?

Here are six copies of different constitutions. Arrange them according to the percentage of the membership required for legal change.

Without referring to your books or notes, tell when the first American constitutional convention occurred.

Without referring to your books or notes, tell which western countries were practicing some sort of constitutional government in the 18th century.

As a result of this study, what do you see as some of the possible relationships between the development of written constitutions and human liberty?

Suppose you were one of the colonizers transported to a distant planet; write a constitution for the colony to live by that would help man to become his most human self.

Specify the essential qualities of constitutional government.

Which of these constitutions would you prefer to live by? Give your reasons.

What are the similarities and differences between our junior high school student body constitution and the Utah State Constitution?

Without referring to your books or notes, tell what three major events in American history led to the adoption of the Constitution.

We hold that teacher preparation should include fundamental knowledge of mental processes.

Understanding Base Systems in Mathematics

Teacher assignments or questions which seem to evoke pupil mental activity at various levels in the schema.

Through the invention of completely strange symbols and using characteristics common to the base ten systems, demonstrate the algorism for the following situation.

xxx		xxxxx	
xxx	multiplied by	xxxx	= ?
xxx		xxxxx	
xxx		xxxx	

Here are examples of two place value charts, each in a different base; indicate the number of dots in the set at the right by placing numerals in each of the place value charts.

Arrange the following elements of several bases in order, from smallest to largest

21_{six} 10_{ten} 20_{seven} 1100_{two} 30_{five}

Label this numeral to indicate that it belongs to base 8.

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Here are the numerals for base two (0, 1) and base five (0,1,2,3,4,). Which base system allows for the greater number of single symbols?

Devise a new and practical numeration system that does not use all of the characteristics used by our numeration system.

Devise a number case new to you and work the following base ten problem in this new number base system.

$$\begin{array}{rr} & 129 \\ \text{add} & 82 \\ \hline \end{array}$$

Here are three new place value charts using different bases. Which base would be most efficient in manually operating large numbers? Justify your conclusion by illustration.

729	81	9	1

64	16	4	1

8	4	2	1

Here are three place value charts which we have not studied; identify the common characteristics by illustration.

27	9	3	1

125	25	5	1

343	49	7	1

Supply the answer to the following problem. Show detail. $20_{\text{eight}} (5.763)_{\text{ten}}$

Which of the following numerals belong to the base ten–

6_{seven} 8_{nine} 7_{eight} 8_{ten} 10_{twelve}

List the characteristics of all number systems similar to ours as listed on page five of the text.

Understanding Photosynthesis

Teacher assignments or questions which seem to evoke pupil mental activity at various levels in the schema.

We hold that the consistent stimulation of the use of higher mental processes by students requires conscious effort and skill on the part of the teacher.

Devise an original scheme or model that will explain photosynthesis.

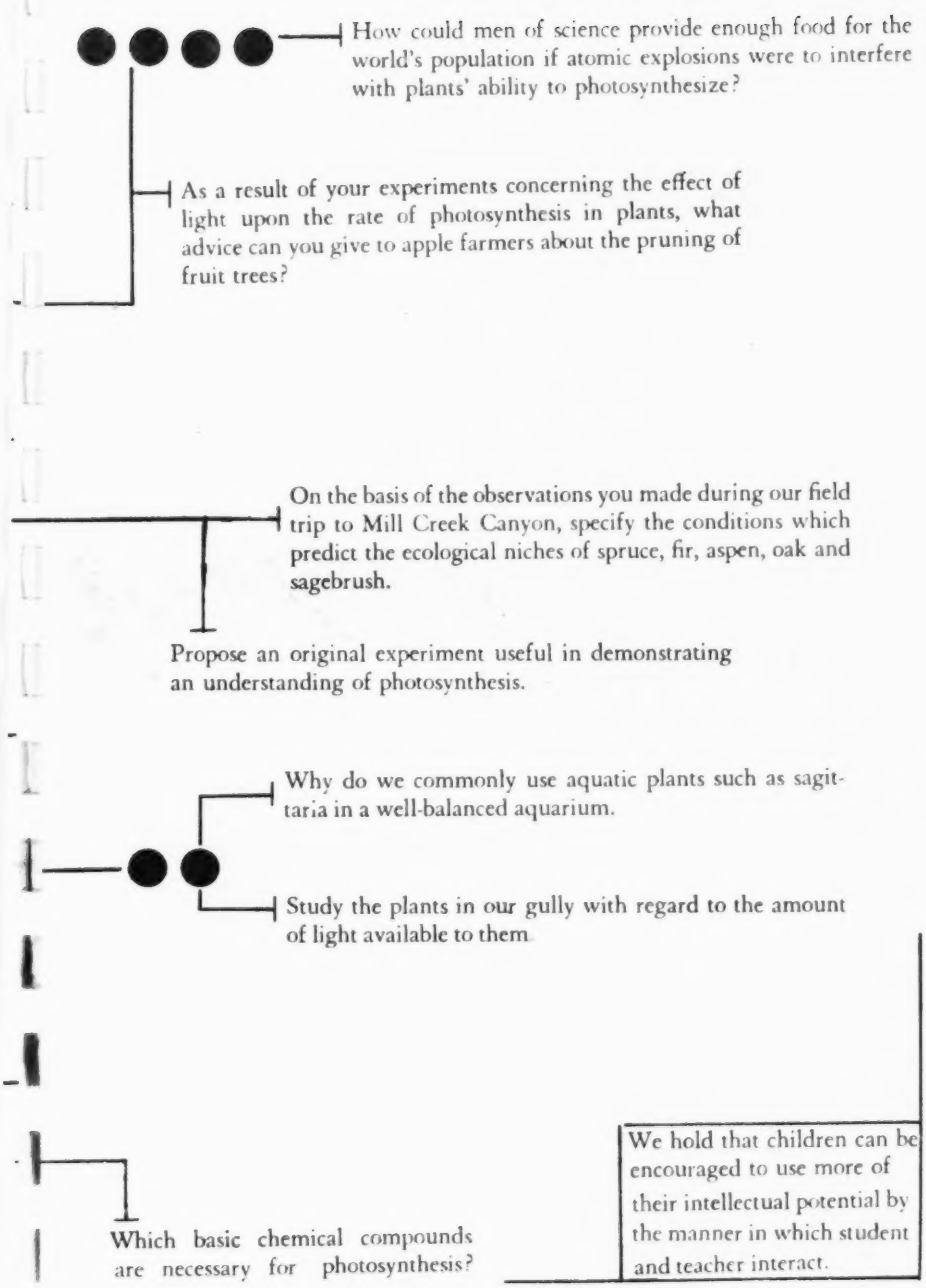
Rate the five solutions in our hydroponic experiment with a view to growing tomatoes commercially.

Considering the process of photosynthesis, what would life on earth be like if the sun were a different color?

Compare the amount of water transpired into a bell jar using opuntia (prickly pear) and using a common geranium with leaf surface. The water in the soil, the soil and the light exposure are held constant.

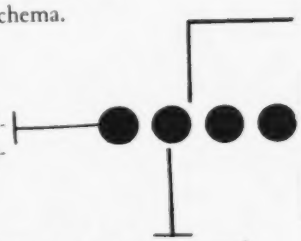
Which of the following live plant specimens photosynthesize? (Show a collection of specimens which includes mold, mushroom, geranium, lawn grass and blue spruce.)

State the process of photosynthesis as explained in the text.


How could men of science provide enough food for the world's population if atomic explosions were to interfere with plants' ability to photosynthesize?
As a result of your experiments concerning the effect of light upon the rate of photosynthesis in plants, what advice can you give to apple farmers about the pruning of fruit trees?
On the basis of the observations you made during our field trip to Mill Creek Canyon, specify the conditions which predict the ecological niches of spruce, fir, aspen, oak and sagebrush.
Propose an original experiment useful in demonstrating an understanding of photosynthesis.
Why do we commonly use aquatic plants such as sagittaria in a well-balanced aquarium.
Study the plants in our gully with regard to the amount of light available to them.
Which basic chemical compounds are necessary for photosynthesis?
We hold that children can be encouraged to use more of their intellectual potential by the manner in which student and teacher interact.

Developing a Concept of Rhythm

Teacher assignments or questions which seem to evoke pupil mental activity at various levels in the schema.



Saint-Saëns composed a humorous number depicting animals. With this in mind, compose a ballet suite for orchestra involving rhythms of the city.

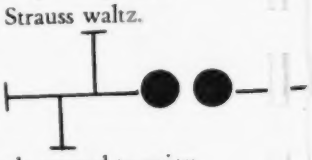
As a result of studying relationships of rhythm and mood, what statements can you make concerning a program-planning committee.

Jeffrey has discovered a rhythm pattern can be put into his finger painting. Please show us while I play the music.

Why did Beethoven repeat the four-note pattern in his fifth symphony? Give evidence to substantiate the validity of your idea.

Differentiate between the rhythm pattern of a Sousa march and a Strauss waltz.

Select one pattern from the following rhythm patterns and arrange sixteen measures suitable for a square dance.



Decide who of your friends seemed to enjoy the Chinese temple blocks most and tell why.

We hold that the use of higher mental processes can be stimulated and encouraged by the nature of the questions that the teacher asks the students to answer.

Does the rhythm pattern in the first measure differ from that of the third?

We hold that teachers can learn to stimulate higher mental processes in themselves and in children.

- Relate poetry, art, music, and dance into a rhythm spectrum.
- Form a new rhythmic pattern of several measures and apply it to a melody (new or already in existence).

- Here are three poems and seven pieces of music. From these select three pieces of music which would most appropriately fit each poem and give the reasons for your choices.
- Orchestrate Bartok's piano composition, "The Swineherd's Dance."
- What is rhythm? Do not use a definition you have heard someone else use.

- What do you suppose might be an appropriate pattern and tempo for the following? (cat, battlefield, sunset, springtime, stormy day, etc.)
- How is the mood altered by the change in rhythm pattern in "The March of the Dwarfs," by Grieg?

- Who can remember the rhythm pattern we identified in the new song we learned yesterday?
- Who can put on the blackboard the basic rhythm pattern in the trio of "Stars and Stripes Forever"?
- What comes to your mind when you think of the rhythm pattern Julie played on the tambourine?

Definitions

LEVEL I

Retrieving

Deliberate recovering or regaining by remembering, recalling and reflecting.

Reflecting

Thinking back over, reminiscing, contemplating, mulling over.

Remembering

Having a notion or idea come into the mind again which implies an earlier experience; random or passive memory.

Recalling

Deliberate bringing back to mind, recollecting; purposeful or active memory.

Identifying

Labeling, recognizing by discriminating; simple agreement or disagreement with another's statement.

Discriminating

Detecting, distinguishing by certain features or characteristics, discerning.

Perceiving

Being openly and selectively aware.

Sensing

Obtaining information through the senses.

LEVEL II ●●

Inferring

Assuming cause and effect or associational relationships among facts; assigning meaning that is beyond the data.

Comparing and Contrasting

Examining things in terms of their characteristics; things are compared when they set side by side in order to show their likenesses. They are also set side by side in order to emphasize their differences.

Imagining

Responding to properties of an object or event not present to the senses; the mental synthesis of ideas from elements experienced separately.

Exploring

Deliberate wondering about, searching into, questioning about; penetrating into a field, area or condition.

Organizing

Arranging or systematizing the interdependent parts of a whole, elaborating a point or supporting an argument; relating.

Analyzing

Examining something to distinguish its component parts separately, or in relation to the whole.

LEVEL III ●●●

Defining

Drawing together and stating the essential qualities of a concept or thing and identifying its precise significance. The most precise definitions are equivalence relationships obeying the "if and only if" test. (Defining as used here does not include mere repetition of a definition arrived at earlier.)

Judging

Drawing a conclusion or making a decision through a deliberate rational process. (If the answer yes or no is given and a reason for the answer is given, the mental process is judge. If no reason is given, the mental process is discriminate.)

Evaluating

Rating something by accepted criteria or by the personal values or biases which are made known.

Discovering

Identifying for the first time something not previously perceived by the discover; oftentimes this is spontaneous.

Hypothesizing

Provisionally accepting a proposition, condition, or principle in order to draw out its logical consequence in accordance with facts which are known or which may be determined; predicting.

Abstracting

Lifting out one or more qualities or factors to achieve a new relationship or different conceptualization.

Integrating

Assimilating and/or accommodating. In assimilating, the factors seem to fit immediately and without

rearrangement or adjustment. In accommodation, the data furnished by the experience are seen as discrepant; they do not fit with one's present notions or patterns of thought, therefore some rearrangement, readjustment or reformulation is required in order to match perceived events.

LEVEL IV ●●●●

Creating

Inventing, generalizing, synthesizing with considerable personal involvement and with results that become recognized by others as having value. (This definition does not include the use of creative as an adjective.)

Generalizing

Stating relationships, principles, laws covering all cases in a class. (This definition does not include mere repetition of a generalization arrived at earlier.)

Inventing-Composing

Bringing together elements, factors, objects, in some new form or use.

Synthesizing

Conceptualizing which brings elements, ideas or generalizations together which have not been brought together in this manner before.

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Hierarchical Schema of Mental Processes

LEVEL IV ●●●●

Creating

Inventing Synthesizing

Generalizing

LEVEL III ●●●

Defining

Discovering Hypothesizing Abstracting Integrating

Judging

Evaluating

LEVEL II ●●

Inferring

Imagining Exploring Organizing Analyzing

Comparing and Contrasting

LEVEL I ●

Retrieving

Reflecting Remembering Recalling

Identifying

Discriminating

Perceiving

Sensing

INQUIRY

The instructor in the communication section kept careful records of what happened during all the three-hour sessions. The descriptions of what actually occurred were matched against the plans for what was supposed to happen. The plans for each session grew out of an analysis of the kinds of questions the students were concerned about in class and in their letters. An overwhelming proportion of questions dealt with the students' fear of social rejection, the tenuousness of friendship, sexual exploration, breaking away from parental control, and success in college or in a job. Many feared immaturity; some feared our involvement in Vietnam. The teacher needed to be very wise and to know a great deal. If his letters were fatuous, the students told him so.

On one occasion, the students were asked by the instructor to respond in writing to the questions and statements below. The only instruction given the students was that they were not to write in complete sentences, but to respond in three-, four-, or five-word phrases. If a particular question did not interest them, or if nothing occurred to them, they were to omit the question:

1. *What do you hear if you are in a car and it is raining outside? What do you feel if you are standing outside?*
2. *Describe the odor of gasoline.*
3. *What sounds do you hear if you are walking with heavy boots in a deep snow? (Don't use the word "crunch.")*
4. *What does hair feel like? Anybody's hair.*
5. *Describe the texture of skin. Feel it.*
6. *How would you describe fear? If you've never been afraid, don't answer. If you have, you don't have to answer either, unless you want to.*
7. *Describe the odor of freshly cut grass.*
8. *Describe the sensation of placing an ice cube against your lips.*
9. *Is there a particular odor in the air before a rainfall? Describe it.*
10. *Is there a particular odor in the air after a rainfall? Describe it.*
11. *If your hand slides across a piece of silk, what sensation do you feel?*
12. *If you were to walk barefoot along a beach of pebbles, what would you feel?*
13. *What does your hand feel like?*
14. *What does someone else's hand feel like?*
15. *Describe the taste of salt.*
16. *Describe the flight of a seagull.*

When the answers had been written, the instructor asked for volunteers to share them, and selected one girl. She went to the board and wrote her responses. She was asked to write them without identifying numbers, so that it would look as if they were all of a piece, not 16 different reactions. What she wrote is reproduced, unedited, below.

Soft rhythms on tin
Torrents of mimvetness
Odor spray
Spreading, pushing, never toe touching ground
Twisting strans--sometimes silky flowing, oil
Smooth body surface
Filled with dread anticipation
Moist flower fragrance
A burning cold
Wet heat, when first to breathe is dying
In fresh clearance objects sparkle and air is pure
A finely never broken woven texture
Sharp, bumpy pains against the pad of feet
Dry dampness underneath
Bare-top dry
Blue crystals on tongue
All perfection, soaring through air with wings
Outstretched, silhouetted against the cloud

As the student wrote her reactions on the board, the instructor asked several students in their seats to read aloud their responses, as if they were part of a whole, and not fragments. After several were read aloud, the instructor turned the attention of the class to the responses on the board. He read the responses aloud.

INSTRUCTOR: *What does that sound like?*
FIRST STUDENT: *Some kind of poetry.*
SECOND STUDENT: *Free verse.*
INSTRUCTOR: *How can that be?*
(No response.)
Why should a group of reactions sound like poetry?
THIRD STUDENT: *Because the same person wrote them.*
INSTRUCTOR: *But what makes it hang together?*
(No response.)
It does hang together, doesn't it?

The students were soon saying that people write out of a well-integrated web of experiences and, no matter what they write, regardless of the descriptions, their phrases would seem to go together because "a person is together." They went on to formulate tentative hypotheses about personality integration, prose, poetry, how one writes, how one reads, and the difficulty a person who is "not together" would have with reading and writing. When asked if they had liked what they had written, the students answered with a unanimous "Yes." When asked if they would like to write a poem, they answered with a unanimous "No."

INSTRUCTOR: *But you enjoyed the writing in class.*
FIRST STUDENT: *You didn't say it was a poem.*
SECOND STUDENT: *You tricked us.*
INSTRUCTOR: *May I trick you some more?*
(Laughter.)

WHAT'S WORTH KNOWING?

Suppose all of the syllabi and curricula and textbooks in the schools disappeared. Suppose all of the standardized tests--city-wide, state-wide, and national--were lost. In other words, suppose that the most common material impeding innovation in the schools simply did not exist. Then suppose that you decided to turn this "catastrophe" into an opportunity to increase the relevance of the schools. What would you do?

We have a possibility for you to consider: suppose that you decide to have the entire "curriculum" consist of questions. These questions would have to be worth seeking answers to not only from your point of view but, more importantly, from the point of view of the students. In order to get still closer to reality, add the requirement that the questions must help the students to develop and internalize concepts that will help them to survive in the rapidly changing world of the present and future.

Obviously, we are asking you to suppose you were an educator living in the second half of the twentieth century. What questions would you have on your list? Take a pencil and write out your questions.

WHAT'S WORTH KNOWING?

We have framed--as we asked you to do--some questions which, in our judgment, are responsive to the actual and immediate as against the fancied and future needs of learners in the world as it is (not as it was). In this, we have not surveyed thousands of students, but have consulted with many, mostly in junior and senior high school. We have tried variations of these questions with children in primary grades. By and large, the response was enthusiastic--and serious. There seemed to be little doubt that, from the point of view of the students, these questions made much more sense than the ones they usually have to memorize the right answers to in school. At this point it might be worth noting that our list of questions is intended to "educate" students. Contrary to conventional school practice, what that means is that we want to elicit from students the meanings that they have already stored up so that they may subject those meanings to a testing and verifying, reordering and reclassifying, modifying and extending process. In this process, the student is not a passive "recipient"; he becomes an active producer of knowledge. The word "educate" is closely related to the word"educe." In the oldest pedagogic sense of the term, this meant drawing out of a person something potential or latent. We can, after all, learn only in relation to what we already know. Again, contrary to common misconceptions, this means that, if we don't know very much, our capability for learning is not very great. This idea--virtually by itself--requires a major revision in most of the metaphors that shape school policies and procedures.

Reflect on these questions--and others that these can generate. Please do not merely react to them.

What do you worry about most?
What are the causes of your worries?
Can any of your worries be eliminated? How?
Which of them might you deal with first? How do you decide?
Are there other people with the same problems? How do you know? How can you find out?
If you had an important idea that you wanted to let everyone (in the world) know about, how might you go about letting them know?
What bothers you most about adults? Why?
How do you want to be similar to or different from adults you know when you become an adult?
What, if anything, seems to you to be worth dying for?
What seems worth living for?
At the present moment, what would you most like to be--or be able to do? Why? What would you have to know in order to be able to do it? What would you have to do in order to get to know it?
How can you tell "good guys" from "bad guys"?
How can "good" be distinguished from "evil"?
What kind of a person would you most like to be? How might you get to be this kind of person?
At the present moment, what would you most like to be doing? Five years from now? Ten years from now? Why? What might you have to do to realize these hopes? What might you have to give up in order to do some or all of these things?

When you hear or read or observe something, how do you know what it means?
Where does meaning "come from"?
What does "meaning" mean?
How can you tell what something "is" or whether it is?
Where do words come from?
Where do symbols come from?
Why do symbols change?
Where does knowledge come from?
What do you think are some of man's most important ideas? Where did they come from? Why? How? Now what?
What's a "good idea"?
How do you know when a good or live idea becomes a bad or dead idea?
Which of man's ideas would we be better off forgetting? How do you decide?
What is "progress"?
What is "change"?
What are the most obvious causes of change? What are the least apparent? What conditions are necessary in order for change to occur?
What kinds of changes are going on right now? Which are important? How are they similar to or different from other changes that have occurred?
What are the relationships between new ideas and change?
Where do new ideas come from? How come? So what?
If you wanted to stop one of the changes going on now (pick one), how would you go about it? What consequences would you have to consider?
Of the important changes going on in our society, which should be encouraged and which resisted? Why? How?
What are the most important changes that have occurred in the past ten years? Twenty years? Fifty years? In the last year? In the last six months? Last month? What will be the most important changes next month? Next year? Next decade? How can you tell? So what?
What would you change if you could? How might you go about it? Of those changes which are going to occur, which would you stop if you could? Why? How? So what?
Who do you think has the most important things to say today? To whom? How? Why?
What are the dumbest and most dangerous ideas that are "popular" today? Why do you think so? Where did these ideas come from?
What are the conditions necessary for life to survive? Plants? Animals? Humans?
Which of these conditions are necessary for all life?
Which ones for plants? Which ones for animals? Which ones for humans?
What are the greatest threats to all forms of life? To plants? To animals? To humans?
What are some of the "strategies" living things use to survive? Which unique to plants? Which unique to animals? Which unique to humans?
What kinds of human survival strategies are (1)similar to those of animals and plants; (2) different from animals and plants?
What does man's language permit him to develop as survival strategies that animals cannot develop?
How might man's survival activities be different from what they are if he did not have language?
What other "languages" does man have besides those consisting of words?
What functions do these "languages" serve? Why and how do they originate? Can you invent a new one? How might you start?

. . . the function of the "What's Worth-Knowing Questions Curriculum" is to put two ideas into clear focus. The first is that the art and science of asking questions is the source of all knowledge. Any curriculum of a nes education would, therefore, have to be centered around question asking. This means that, even if a school system is unwilling to scrap its present curriculum structure (i.e., "history," "English," "science," etc.), it will need to transform its instructional program so that the major content of what is to be learned by the students results from inquiries structured by the questions that are raised. This implies that students will spend a great deal of their time finding answers to their questions. Question asking and answer finding go hand in hand. And answer finding requires that students go to books, to laboratories, to newspapers, to TV sets, to the streets, to wherever they must go to find their answers.

The second idea is that question asking, if it is not to be a sterile and ritualized activity, has to deal with problems that are perceived as useful and realistic by the learners. We do not mean to suggest that a child's perception of what is relevant is an unalterable given; indeed, the thrust of the "curriculum" we have been describing is to extend the child's perception of what is relevant and what is not.

Simply said: THERE IS NO LEARNING WITHOUT A LEARNER. AND THERE IS NO MEANING WITHOUT A MEANING MAKER. In order to survive in a world of rapid change there is nothing more worth knowing, for any of us, than the continuing process of how to make viable meanings.

The attitudes of the inquiry teacher are reflected in his behavior. When you see such a teacher in action, you observe the following:

THE TEACHER RARELY TELLS STUDENTS WHAT HE THINKS THEY OUGHT TO KNOW. He believes that telling, when used as a basic teaching strategy, deprives students of the excitement of doing their own finding and of the opportunity for increasing their power as learners.

HIS BASIC MODE OF DISCOURSE WITH STUDENTS IS QUESTIONING. While he uses both convergent and divergent questions, he regards the latter as the more important tool. He emphatically does not view questions as a means of seducing students into parroting the text or syllabus, rather, he sees questions as instruments to open engaged minds to unsuspected possibilities.

GENERALLY, HE DOES NOT ACCEPT A SINGLE STATEMENT AS AN ANSWER TO A QUESTION. In fact, he has a persisting aversion to anyone, any syllabus, any text that offers The Right Answer. Not because answers and solutions are unwelcome - indeed, he is trying to help students be more efficient problem solvers - but because he knows how often The Right Answer serves only to terminate further thought. He knows the power of pluralizing. He does not ask for the reason, but for the reasons. Not for the cause, but the causes. Never the meaning, the meanings. He knows, too, the power of contingent thinking. He is the most "It depends" learner in his class.

HE ENCOURAGES STUDENT-STUDENT INTERACTION AS OPPOSED TO STUDENT-TEACHER INTERACTION. AND GENERALLY HE AVOIDS ACTING AS A MEDIATOR OR JUDGE OF THE QUALITY OF IDEAS EXPRESSED. If each person could have with him at all times a full roster of authorities, perhaps it would not be necessary for individuals to make independent judgments. But so long as this is not possible, the individual must learn to depend on himself as a thinker. The inquiry teacher is interested in students' developing

their own criteria or standards for judging the quality, precision, and relevance of ideas. He permits such development to occur by minimizing his role as arbiter of what is acceptable and what is not.

HE RARELY SUMMARIZES THE POSITIONS TAKEN BY STUDENTS ON THE LEARNINGS THAT OCCUR. He recognizes that the act of summary or "closure" tends to have the effect of ending further thought. Because he regards learning as a process, not a terminal event, his "summaries" are apt to be stated as hypotheses, tendencies, and directions. He assumes that no one ever learns once and for all how to write, or how to read, or what were the causes of the Civil War. Rather, he assumes that one is always in the process of acquiring skills, assimilating new information, formulating or refining generalizations. Thus, he is always cautious about defining the limits of learning, about saying "This is what you will learn between now and the Christmas holidays," or even (especially), "This is what you will learn in ninth grade." The only significant terminal behavior he recognizes is death, and he suspects that those who talk of learning as some kind of "terminal point" are either compulsive travelers or have simply not observed children closely enough. Moreover, he recognizes that learning does not occur with the same intensity in any two people, and he regards verbal attempts to disregard this fact as a semantic fiction. If a student has arrived at a particular conclusion, then little is gained by the teacher's restating it. If the student has not arrived at a conclusion, then it is presumptuous and dishonest for the teacher to contend that he has. (Any teacher who tells you precisely what his students learned during any lesson, unit, or semester quite literally does not know what he is talking about.)

HIS LESSONS DEVELOP FROM THE RESPONSES OF STUDENTS AND NOT FROM A PREVIOUSLY DETERMINED "LOGICAL STRUCTURE. The only kind of lesson plan, or syllabus, that makes sense to him is one that tries to predict, account for, and deal with the authentic responses of learners to a particular problem: the kinds of questions they will ask, the obstacles they will face, their attitudes, the possible solutions they will offer, etc. Thus, he is rarely frustrated or inconvenienced by "wrong answers," false starts, irrelevant directions. These are the studd of which his best lessons and opportunities are made. In short, the "content" of his lessons are the responses of his students. Since he is concerned with the processes of thought rather than the end results of though (The Answer!), he does not feel compelled to "cover ground" (there's the traveler again), or to insure that his students embrace a particular doctrine, or to exclude a student's idea because it is not germane. (Not germane to what? Obviously, it is germane to the student's thinking about the problem.) He is engaged in exploring the way students think, not what they should think (before the Christmas holidays). That is why he spends more of his time listening to students than talking to or at them.

GENERALLY, EACH OF HIS LESSONS POSES A PROBLEM FOR STUDENTS. Almost all of his questions, proposed activities, and assignments are aimed at having his students clarify a problem, make observations relevant to the solution of the problem, and make generalizations based on their observations. His goal is to engage students in those activities which produce knowledge: defining, questioning, observing, classifying, generalizing, verifying, applying. As we have said, all knowledge is a result of these activities. Whatever we think we "know" about astronomy, sociology, chemistry, biology, linguistics, etc. was discovered or invented by someone who was more or less an expert in using inductive methods of inquiry. Thus, our inquiry, or "inductive," teacher is largely interested in helping his students to become more proficient as users of these methods.

HE MEASURES HIS SUCCESS IN TERMS OF BEHAVIORAL CHANGES IN STUDENTS: the frequency with which they ask questions; the increase in the relevance and cogency of their questions; the frequency and conviction of their challenges to assertions made by other students or teachers or textbooks; the relevance and clarity of the standards on which they base their challenges; their willingness to suspend judgments when they have insufficient data; their willingness to nodify or otherwise change their position when data warrant such change; the increase in their tolerance for diverse answers; their ability to apply generalizations, attitudes, and information to novel situations.

These behaviors and attitudes amount to a definition of a different role for the teacher from that which he has traditionally assumed, The inquiry environment, like any other school environment, is a series of human encounters, the nature of which is largely determined by the "teacher." "Teacher" is here placed in quotation marks to call attention to the fact that most of its conventional meanings are inimical to inquiry methods. It is not uncommon, for example, to hear "teachers" makestatements such as, "Oh, I taught them that, but they didn't learn it." There is no utterance made in the Teachers' Eoom more extraordinary than this. From our point of view, it is on the same level as a solesman's remarking, "I sold it ot him, but he didn't buy it" - which is to say, it makes no sense. It seems to mean tha "teaching" is what a "teacher" does, which, in turn, may not bear any relationship to what those being "taught" do.

TEACHER-PUPIL QUESTION INVENTORY (TPQI)

from

Classroom Questions What Kinds? by Norris Sanders, Harper Row, 1966.

"Cognitive Objectives Revealed by Classroom Questions" by O. L. Davis and Drew C. Tinsley from Teaching edited by Ronald T. Hyman, Lippincott, 1968.

I. There are two basic hypothesis on which this system is built.

A. Teachers can lead students into all kinds of thinking through careful use of questions, problems, and projects.

B. Too many teachers ask questions that only require students to remember and few teachers make full use of all worthwhile kinds of questions.

II. The objective of the system is to describe a practical plan to insure a varied intellectual atmosphere in the classroom.

III. The categories of thinking are based on an extension of those outlined by Benjamin S. Bloom in his book, Taxonomy of Educational Objectives:

1. Memory: The student recalls or recognizes infromation. (facts, generalizations, etc.)

2. Translation: The student changes information into a different symbolic form or language. (linguistic, symbolic, image, etc.)

3. Interpretation: The student discovers relationships among facts, generalizations, definitions, values, and skills.

4. Application: The student solves a realistic problem requiring the identification of crucial issues or points and the selection and use of appropriate knowledge and skills.

5. Analysis: The student solves a problem with explicit attention to the relationship(s) between the ideas expressed and with obvious awareness of the process employed in reasoning.

6. Synthesis: The student suggests answers to a problem that is original, speculative, or creative.

7. Evaluation: The student makes a judgment according to explicit criteria, external or internal (good or bad, right or wrong, according to the standards he designates).

8. Affectivity: The student responds with a statement of feeling, emotion, or opinion without a standard of appraisal.

9. Procedure: The question relates to classroom organization, student behavior, or instructional management.

A. The problem is that teachers tend to ask too few questions requiring translation, interpretation, application, analysis, synthesis and evaluation.

B. The plan advocated by the authors coincides with the popular theory of "learning by doing" because it vigorously engages the learner in a variety of mental activities.

C. Difficulty in classifying a particular question is no detraction from the quality of that question.

IV. There are three factors entering into the determination of the kind of thinking that is brought into the minds of students by any question.

A. The nature of the question itself must be considered in terms of its classification in the taxonomy: a certain kind of question usually leads to a certain kind of thinking.

B. One must be aware of the knowledge that a student brings to the classroom.

C. One must also consider the instruction that proceeds the asking of a question.

V. A question should be classified at its highest level. There are both simple and complex questions within each category. This means that slow learners should not be restricted to only memory questions. In fact, these children have a special need for a variety in their educational experiences, because education often seems dull and frustrating to them.

VI. The following are detailed descriptions of each type of questions:

A. Memory

1. The greatest problem is not in making good test itmes, but in determining the knowledge that is worth remembering and emphasizing that judged most important and deserving the most attention.

2. Memory deals to a large extent with fact - the emphasis on the definition of fact that it is noncontroversial. Facts should serve as a means to an end, rather than an end in themselves. Decide first on the generalizations and then choose the necessary facts to develop them.

3. The subject of values is also pertinent to the memory category (a value differs from a generalization in that it expresses a judgment of quality). Before values can be used, they must be in the minds of the learner on the recall level.

4. Attention to definitions, generalizations, and values is vitally important in framing good questions, for four reasons:

a. This form of knowledge is generally the most important the most worth learning.

b. Teachers will find it much easier to compose questions that require a variety of intellectual activities if they concentrate on generalizations and values.

c. Educational research indicates that widely applied generalizations and values are less likely to be forgotten than most other forms of knowledge.

d. Educational psychologists who have studied the "transfer of training" conclude that the best way to prepare students for an unknown future is to instruct them in the use of generalizations and values that are likely to have effective application.

5. The importance of the memory category should not be permitted to completely overshadow its three weaknesses.

a. The rapid rate of forgetting.

b. Memorized knowledge does not necessarily represent a high level of understanding.

c. An education concentrating on memory neglects the other intellectual processes learned through practice.

B. Translation

1. Translation thinking is quite literal and does not require the learner to discover intricate relationships, implications, or subtle meanings. The learner identifies one part of the original communication at a time and translates it into the new form.

2. Some examples of translation questions would be, "put this into your own words" or the form of translation from words to picture or vice versa. The translation of ideas into a sociodrama is another example.

3. The mechanics of translating an idea from one medium to another must not be permitted to be out of proportion to the importance of the idea.

C. Interpretation

1. The essential characteristic of interpretation is that the student relates facts, generalizations, definitions, values, and skills, i. e. he discovers or uses a relationship between two or more ideas.

2. There are seven forms of interpretive relationships that one might use in a question:

a. Comparative relationship (determining if ideas are identical, similar, different, unrelated, or contradictory). Examples: Compare the two civilizations in regard to religion, architecture, government. Establish the influence of Virgil on the author of Beowulf by citing similarities between the Aeneid and Beowulf.

b. Relationship of implication (if the evidence is true, then the implication must be true). Example:
If

Oligarchy is rule by the few.
Aristocracy is rule by the best.
Democracy is rule by the many.

What could you imply about a nation that was governed by democracy?

c. Relationship of an inductive generalization to supporting evidence. Example:
Find evidence in your textbook that supports or refutes these generalizations:

The moral character of man is slowly improving.
Power corrupts.
The United States has a depression every thirty years.
There was no freedom in the ancient world.
Great civilizations have not developed in the tropics.
The children are hungry.
Squash is or is not a fruit.

d. Relationship of a value, skill, or definition to an example of its use. Example:
Classify each of the following arguments for and against slavery using the five types of arguments listed below:

Arguments based on selfish advantage.
Arguments based on the idea that other people believe the same thing.
Arguments based on the Jude0-Christian and democratic values.
Arguments based on false facts or ideas.
Arguments that have little or nothing to do with the problem.

Slavery is right because it has existed through most of history.
Slavery is wrong because it existed primarily in the Sou h.
I should not have to give up my slaves because they cost me over $1000 each.
Slavery is right because it was accepted by the men who wrote the U.S. Constitution.
Slavery is a just system because Negroes need the guidance of the superior white race.
Slavery is right because it was supported by the great Greek, Aristotle.

e. Quantitative relationship (the learner is asked to use statistical information to draw conclusions).

Example:
UNEMPLOYMENT DURING THE DEPRESSION

Year	Number Unemployed	% of Labor Force
1929	1,550,000	3.2
1930	4,340,000	8.7
1931	8,020,000	15.9
1932	12,060,000	23.6
1933	12,830,000	24.9
1934	11,340,000	21.7
1935	10,610,000	20.1
1936	9,030,000	16.9
1937	7,700,000	14.3
1938	10,390,000	19.0
1939	9,480,000	17.2

What do these figures tell? Did the New Deal succeed in its purposes?

f. Cause and effect (A cause, according to one dictionary, is"anything that produces an effect or result.") A cause makes something happen. Sometimes causes seem simple. Example: I push a book - like this - and it moves (Demonstrate). The effect is the movement of the book. What is the cause of the movement of the book?

I caused it.
My fingers caused it.
My arm muscles caused it.
The energy from the food I ate caused it.

Which causes seem to include others? Which do you believe to be the best explanation and why?

g. Interpretation questions based on the format of the question (analogy, irrelevant items, outlines, etc.)
Examples:

Analogy:
Pattern: A is to B as _____ is to D.
A is to B as C is to _____.
A is to B as _____ is to D, as ___ is to F, etc.
A and B are to C, as D and E are to _____.
A but not B is to C, as D but not ___ is to F.

Irrelevant Items:
Which date does not fit in this series about U.S. history?
1812 1824 1915 1941

Outline:
Give students a list of statements in random order. Ask that the statements be put in order.

D. Application

1. This category of questions is designed to give the student practice in the transfer of training.

2. There are three main characteristics of the questions in the application category.

    a. These questions deal with knowledge which has explanatory or problem-solving power: the kind of knowledge transferable to many new situations.

    b. They deal with the whole of ideas and skills rather than with the parts alone.

    c. They include a minimum of directions or instructions, because the questions are based on previous learning and the student is expected to know what to do. (Independent use of knowledge and skills.)

3. An application skill can be built from a simple principle, definition, value, or skill, or a pattern of these. (And not all ideas are applicable.)

4. Students need to be prepared for answering application questions. The distinction between application and interpretation centers on the instructional context in which the question is asked.

5. Application may be either behavior-centered or subject-centered.

E. Analysis

1. The distinctive feature of the analysis category is that it requires the solution of problems in the light of conscious knowledge of the parts and processes of reasoning.

2. Analysis is not as explicit as interpretation in terms of what is to be done and the subject matter and skills needed to answer the questions.

3. Analysis involves induction (from specific to general), recognizing fallacies in arguments, and deduction. Knowledge in the use of semantics is vital to the analytic process.

F. Synthesis

1. Synthesis questions encourage students to engage in imaginative original thinking. Much depends on the classroom atmosphere (rewards for original thinking).

2. The following are characteristics of synthesis questions:

    a. These questions allow the learner great freedom in seeking solution, and many types of approaches.

    b. Synthesis calls for divergent thinking, which starts from a problem that offers a variety of possibilities radiating out to many satisfactory answers.

G. Evaluation

1. Any idea or object can be evaluated in two main steps.

a. The first is to set up appropriate standards or values.

b. The second is to determine how closely the idea or object meets these standards.

2. The process of evaluation requires preparatory instruction, which falls mainly in the memory and interpretation categories, also knowledge of the nature of values.

H. Affectivity - The learner responds with a statement of feeling, emotion, or opinion without a standard of appraisal.

I. Procedure - The question relates to classroom organization, student behavior, or instructional management.

VII. The ultimate commitment to the taxonomy of questions is the long-range program of building an entire course with a conscious consideration of the thought processes of the learners. A reasonable rule of thumb for an academic course is that a minimumof one-third of the time allotted to questioning in both instruction and evaluation should be devoted to levels above memory.

VIII. Before a teacher wites a unit, he should steep himself in knowledge of that subject. A teacher needs to use more sources than just the text book because it offers little opportunity for any mental activity except remembering.

IX. Almost any important concept can be taught in several ways that will lead the learners to different levels of thinking. An important rule in framing questions is that questions designed for grading should reflect the same kind of thinking used in instruction.

X. Students can be lead to think in each category through the use of such questions as the following:

Memory: What is meant by "gerrymandering"? (The student is asked to recall the definition presented to him earlier.)

Translation: The Encyclopedia of the scoial sciences defines "gerrymander" in this way:
Gerrymander is a term used to describe the abuse of power whereby the political party dominant at the time in a legislature arranges constituencies unequally so that its voting strength may count for as much as possible at elections and that of the other party or parties for as little as possible.
Restate this definition in your own words.

Interpretation: Each county in the diagram of the mythical state has about the same population and is dominated by the designated political party "A" or "B". The state must be divided into five voting districts of about equal population. Each district must contain three counties.

A	B	B	A	A
A	A	B	A	B
A	A	B	A	B

What is the greatest number of districts that Party A could control if it is in charge of the redestricting and chooses to gerrymander? What is the greatest number of districts that Party B could control if it is in charge of the redestricting and chooses to gerrymander? (The students have previously been given a definition of gerrymandering.)

Application: The mayor recently appointed a committee to study the fairness of the boundaries of the election districts in our community. Gather information about the present districts and the population in each. Determine whether the present city election districts are adequate. (The student is expected to apply the principles of democracy studied in class to this new problem.)

Analysis: Analyze the reasoning in this quotation. "Human beings lack the ability to be fair when their own interests are involved. Party X controls the legislature and now it has taken upon itself the responsibility of redarwing the boundaries of the legislative election districts. We know in advance that our party will suffer."

Synthesis: (This question must follow the application question given above.) If current election districts in our community are inadequate, suggest how they might be redrawn.

Evaluation: Would you favor your political party engage in gerrymandering if it had the opportunity?

TPQI requires a classroom observation. At each instance of a question asked by either teacher or a pupil, the observer decides which category in which the question can be classified and marks a tally in a provided space. Questions are judged by attention to their form and inferred intent as well as the nature of the response elicited ant its reception by the pupil or teacher. The TPQI has nine cagegories, seven of which are based on the Bloom Taxonomy and the formulations of Sanders (1966). The last two categories include non-cognitive questions.

Research by Doris and Tinsley with 44 student teachers at University of University of Texas, fall semester 1966 shows that both teachers and pupils asked more memory questions than all other questions combined. The types of questions asked by teachers and pupils were highly correlated ($r = .90$).

The following selection illustrated the point that good questions can be ludicrous when applied to insignificant subject matter:

"This Little Pig went to market."

Why? Did he go to buy or to be bought? Is he a free agent? If to buy, what and for whom? Is he an informed buyer, the sort who would study the Buyers' Index and Consumer's Guide? If, and it is altogether possible, is he is to be sold, what price will he bring? What will be the effect on the market price of the recent attempts to control agricultural surplus? And, in our everwidening circle of relationships, is there a reasonable or an exorbitant profit for the farmer?

"This Little Pig stayed home."

Once again, why? Why did he stay home? Was he perhaps antisocial? What was there in his background that caused him to stay home? What was his home like? What did he do there? He may have been a truant. What can we do to make our schools attractive to the potential traunt? Is it good for us to stay home sometimes?

"This Little Pig had none."

Why not? Did he eat something else? What would you suggest as a well-balanced diet for a pig? What bad psychological effects are likely to result from the juxtaposition of plenty and scarcity? One authority suggests that this little pig was suffering from slight indisposition. Another suggests that he was being punished. Do you concur with either of these theories? Or was he on one of those liquid diets?

"This Little Pig cried 'Wee, Wee, Wee' all the way home."

Wher had the little pig been? Why did he cry? What does this tell us about the pig's personality and character development? At what age do pigs change from "wee" to "oink"?

Let us now invite the children to participate in certain worthwhile activities which will provide experimental enrichment, accommodate individual differences, and permit the less literary and less articulate child to share in a rich experience.

1. Arrange a bulletin board on the theme, "Pigs in Literature." This can entail some research and should include of course, "Dissertation on Roast Pig," "Pigs is Pigs," etc.

2. Build a home where a pig would like to stay. What size and shape would you make it? What materials and colors are most suitable?

3. Stay home yourself and see how you like it.

4. Prepare a scientific diet for a pig. Write to the U.S. Department of Agriculture, Washington 16, D.C., for the most recent information on the subject. Give careful attention to calorie intake and the proper balance of protein, carbohydrates, and fats. Consider particularly the cholesterol level of the diet.

5. Dramatize "This Little Pig." This poem can be adapted to the "theatre-in-the-round" technique.

6. Consult the visual-aids catalogues published by the visual-aids department of your school and show a film on pork production. Especially recommended in the U.S. Department of Agriculture film strip # 208. "Pork Production in the United States, 1959."

7. Try fasting when others are eating to learn how that little pig felt. List the advantages of fasting.

8. Get a litter of five pigs and raise them sot that they will be happy, healthy, and well adjusted. Keep a day-by-day account of their development, noting particularly their stability of personality.

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APPENDIX IV

Knowledge of Specific Facts

Directions: For each of the following items blacken answer space.

A- if it was in the Articles of Confederation;
B- if it was in the Constitution of 1787;
C- if it was in the Bill of Rights (Amendments I-X);
D- if it was in Amendments XI - XXI;
E- if it was in two or more of the above.

1. Protected life, liberty and property against governmental action without due process of law.
2. Provided for popular election of United States Senators.
3. Provided for a unicameral legislature.
4. Gave the treaty-making power to Congress.

Comprehension

5. "All ideas are products of experience, or of reflection on experience. Sensations when given meaning are perceptions. Association of percepts, or of simple ideas, leads to complex or abstract conceptions whose original source is still experience." This quotation best represents the point of view of

A- positivism
B- rationalism
C- idealism
D- empiricism
E- pragmatism

Application

6. The length of a rectangular lot exceeds its breadth by 20 yards. If each dimension is increased by 20 yards the area of the lot will be doubled. Find the shorter dimension of the original lot. Show your work below.

A- 20
B- 30
C- 35
D- 40
E- none of the foregoing

Analysis

7. A group of college students were discussing the relative merits of two grading systems. It had been suggested that only two grades be used: S(Satisfactory) and U(Unsatisfactory, instead of the A-B-C-D-F system then in use at the college. One student made the following statement:

"People go to college to learn, not just to get grades. Grades are no indication of absolute degree of learning, they are purely relative and then mostly determined by chance or probability (guessing, multiple-choice tests, etc.). The

student is a better judge of how he is doing than the professor. Therefore, an S-U system would be better since it would cut down the amount of differentiation between grades and give a beter picture of how the student is doing."

An important unstated assumption involved in this argument is that

A- the accuracy of the A-B-C-D-F system cannot or will not be significantly improved.
B- people go to college to learn.
C- the student is a better judge of how he is doing than the professor.
D- an S-U system would be better.
E- grades have no importance.

Evaluation

For items 8-13, assume that in doing research for a paper about the English language you find a statement by Otto Jespersen which contradicts some point of view on language which you have always accepted. Indicate which of the statements would be significant in determining the value of Jespersen's statement. For the purpose of these items you may assume that these statements are accurate.

Key: A. Significant positively -- i.e., might lead you to trust his statement and to revise your own opinion.
B. Significant negatively -- i.e., might lead you to distrust his statement.
C. Has no significance.

8. Mr. Jespersen was Professor of English at Copenhagen University.
9. The statement in question was taken from the very first article that Mr. Jespersen published.
10. Mr. Jespersen's books are frequently referred to in other works that you consult.
11. Mr. Jespersen's name is not included in the Dictionary of American Scholars.
12. So far as you can find, Jespersen never lived in England or the United States for any considerable period.
13. In your reading of other authors on the English Language, you find that several of them went to Denmark to study under Jespersen.

TESTSCOR is based upon a test scoring program written by Philip L. Hershey, Wesley E. Fasnacht, and Thomas A. Egan of West Chester State College Data Center.

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METHOD

I. Discrimination Index

Discrimination Index is a point biserial correlation coefficient calculated as follows:

r_{pb} : point-biserial correlation coefficient

$\bar{X}_P$: mean score of those students correctly answering question

M : examination mean

S : standard deviation of examination

P : proportion of students correctly answering question

q : proportion of students incorrectly answering question

$$S = \sqrt{\frac{\sum X^2 - \frac{(\sum X)^2}{N}}{N-1}} \qquad r_{pb} = \left(\frac{\bar{x}_P - M}{S}\right)\sqrt{\frac{P}{q}}$$

The point biserial correlation coefficient is a measure of the correlation between a dichotomous and a continuous variable. In TESTSCOR the point biserial correlation coefficient (discrimination index) represents the correlation between performance on a particular item and performance on the test as a whole.

1. A high positive r_{pb} ($r_{pb} > .50$) indicates a question on which the higher scoring students on the examination did better than the lower scoring students on the examination.

2. A low positive r_{pb} ($r < .20$) indicates a question on which the higher scoring students on the examination did not do appreciably better than the lower scoring students on the examination.

3. A negative r_{pb} indicates a question on which the lower scoring students on the examination did better than the higher scoring students on the examination. (Size depends upon a number of things - this number is not firm)

II. Reliability Coefficient

The reliability coefficient is found from the Kuder-Richardson formula 20.

II. Reliability Coefficient (cont)

$r_{tt'}$: test reliability

n : number of test items

p_i : proportion of students passing item i

q_i : $1-p_i$

σ_t : standard deviation of the test over all students

$$r_{tt'} = \frac{n}{n-1}\left(\frac{\sigma_t^2 - \hat{\Sigma} p_i q_i}{\sigma_t^2}\right)$$

The K-R formula for reliability assumes that the test is unspeeded. This means that every student has a chance to answer every question. The K-R 20 further assumes that all questions are of equal difficulty. The K-R 20 is in essence the average of all possible split halves of the test.

III. Adjusted Score

$$AS = R - \frac{W}{K-1}$$

AS : Adjusted scored i.e. score corrected for guessing

R : Number of questions student answered correctly

W : Number of questions student answered incorrectly

K : Number of choices per questions

The adjusted score assumes that every question has the same number of choices. If this is not so the adjusted score will not be correct. It also assumes that every student has ample time to answer every question. No distinction is made between questions being omitted because the student did not know the answer and those questions omitted because the student did not have time to read the question.

IV. Punched Cards

Cards will be punched as follows:

CC 1 : blank

CC 2-10 : student number

CC 11-14 : blank

CC 15-36 : student name

CC 37 : blank

CC 38-41 : # right

CC 42 : blank

CC 43-46 : # wrong

CC 47 : blank

CC 48 - 54 : Raw Score

CC 55 : blank

CC 56-61 : Adjusted Score

CC 62-66 : Extraneous data

CC 67 : blank

CC 68-73 : Raw score plus extraneous data

CC 74 : blank

CC 75 - 80 : Adjusted score plus extraneous data

V. T-Score

McCall's name for standard scores or transformed standard measures.

$$z = \frac{X - M}{S}$$

$$T = 10\,z + 50$$

z: Standard Measure

T : T score
X : Raw Score
M : Mean
S : Standard Deviation
z : Standard Measure

LIMITATIONS

No more than 160 multiple choice (true-false-etc.) questions.

All answers are marked on a digitek form supplied by Data Center - this requires a No. 2 pencil.

No more than 500 subjects

No more than 5 possible choices (A,B,C,D,E)

LIMITATIONS
(cont)

Only one correct response to each question.

No distinction between omits and non-reads.

If two or more groups of subjects are to be scored together they require the same key.

OUTPUT
(Sample attached)

Item Analysis

Number of question	(ITEM NR)
Correct answer to question	(CORR ANS)
Number of subjects not responding to question	(BLNK)
Percent of population not responding to question	(%)
Number of subjects responding with an A to question	(A)
Percent of populatinn responding with a A to question	(%)
Number of subjects responding with a B to question	(B)
Percent of population responding with a B to question (similarly for responses C,D and E)	(%)
Difficulty Index Percent of population answering question correctly	(DIFF IND)
Discrimination Index Point biserial correlation coefficient	(DISC IND)
Weight of question	(QUESTION WEIGHT)

Reliability Coefficient (KR-20)

A Histogram breaking range of scores into 20 intervals

Additional output is attached to demonstrate some of the options available under TESTSCOR - contact TESTSCOR, Part II for directions on how to exercise these options.

West Chester State College

Computer Services

Test Scoring Package TESTSCOR Part II

TESTSCOR is based upon a test scoring program written by Philip Hershey, Wesley E. Fasnacht and Thomas Egan of West Chester State College Data Center.

Although this program has been tested, no warranty, expressed or implied, is made by the West Chester State College Data Center as to its accuracy or appropriateness.

I. Directions for test scoring --- No options*

All responses are to be made with a No. 2 lead pencil NO PEN

A. Professor should create an answer key by marking

1. Name
2. Student Number (999999999)
3. Correct Answers

B. Students should mark

1. Name
2. Student Number (Social Security Number)

C. Professor should return answer key and completed answer sheets to Computer Services Secretary in the Learning Research Center. An answer key should be the first sheet for each group of students the professor wishes scored.

D. Professor should pick up results the following day in the Learning Research Center.

E. Tests will be accepted and returned to professors only (or their department secretary). No tests will be accepted from or returned with students.

II. The test scoring program is designed to handle a number of useful options. These include the ability to : (Sample attached)

A. Adjust scores for guessing

B. Assign weights other than 1 to individual test items

C. Add points extraneous to the exam being scored (such as additional points for essay questions)

D. Omit test items.

E. Punch results onto tab cards. (Useful for further statistical analyses)

III. Directions for using options

A. The following options are indicated on the Teacher Answer Key (999999999)

1. Adjusted Score: (Scores corrected for guessing)

The adjusted score assumes that every question has the same number of choices. If this is not so you may wish to use the modal number of choices. Subtract ONE from the number of choices.
Mark this number, (the number of choices minus one) a 1, 2, 3, for 4 under "Form of this test is" if you wish to have scores corrected for chance guessing.

2. Punched Cards

Mark a one in column headed 6, next to grade, if you wish your result punched into cards.

3. Extraneous data

Go to the columns headed 1, 2, 3, next to the student number. Enter here the maximum number of points allowed as extraneous data. This entry should be right-justified. (E. G. 50 would be 050)

To give a student extraneous data mark columns headed 1, 2, 3 on student answer sheet with the number of points (right-justified) that the student is to receive. (e.g. 12 extra points would be 012).

B. The following options require a special sheet with the student number of 555555555. This sheet will directly follow the 999999999 sheet (answer key)

1. UNEQUAL WEIGHTING OF QUESTIONS.

A point value of two (2) to five (5) can be assigned to any question. The program will automatically assign the value of one (1) to each question. Weights other than one are assigned to the question by marking the specific question accordingly (B=2, C=3, D=4, E=5). e.g. for a weight of 3 to question 20:

	A	B	C	D	E
20			1		

NOTE: DO NOT MARK IN COLUMN A OF ANY QUESTION, THIS IS FOR OMITTING QUESTIONS.

2. OMITTING QUESTION:

Professors can omit itmes by marking the A column of questions to be omitted on the 555555555 sheet.

APPENDIX V

OFFICE OF STUDENT TEACHING
WEST CHESTER STATE COLLEGE
LEVELS OF QUESTIONING
from
(Bloom's Taxonomy)

		Average Teacher (Asks 47 questions in 20 minutes)
MEMORY Recall of recognition of information	(Who is governor of Pennsylvania?)	47.54%
TRANSLATION Change information into different symbolic form or language	(Explain this in your own words? Define... Show this information on a graph. Summarize...)	3.42%
INTERPRETATION Discovers relationships among facts, generalizations, definitions, values, skills.	A dictionary gives the definition of "taxonomy" as the science of classification: laws & principles conveying the classification of objects: True or false: according to the dictionary definition of taxonomy; classification system need not be cumulative sequential.	9.08%
APPLICATION Solves lifelike problem requiring identification of issue and selection and use of appropriate generalizations and skills.	(What would you do to save yourself from a situation like that?)	2.29%
ANALYSIS Solves problem in the light of conscious knowledge of parts and forms of thinking.	(What do you think will happen next?)	25.94%
SYNTHESIS Solves a problem that requires original, creative thinking	(Which in the following list of questions do you believe are legitimate for collective bargaining?)	9.16%
EVALUATION Makes a judgment of good or bad, right or wrong, according to standards he designates.	(which is the best idea?)	2.55%

Average teacher asks 47 questions in 20 minutes
47.54% Memory
3.42% Translation
9.08% Interpretation
2.29% Application
25.94% Analysis
9.16% Synthesis
2.55% Evaluation

Sanders, Norris M. Classroom Questions what kinds Harper Row 1966
Bartolome, Paz I. "Teachers' Objectives and Questions in Primary Reading." The Reading Teacher Vol 23, No.1, October 1969, p 27 - 33.

APPENDIX VI

INTERGROUP EDUCATION IN A MULTI-ETHNIC SOCIETY

I. Definition:

Intergroup education is concerned with both cognitive and affective experiences in the curriculum which will enhance the understanding between and among the various ethnic groups in our country with special emphasis on black/white relations.

II. Early Efforts

A. Intercultural Education
   1. Dr. Wm. H. Kilpatrick, - Columbia Univ. (late 30's)
   2. Dr. Rachael DuBois, - New Youk Univ. (early 40's)

B. Pioneer Studies
   1. Lasker, Bruno, Race Attitudes in Children - 1929
   2. Moreno, J. Who Shall Survive? - 1934
   3. Criswell, J. "Racial Cleavage in Negro-White Groups" - 1937
   4. Horowitz, E. "Social Attitudes in Children" - 1938

III. Further Development

A. Group Living Experiences -
   1. Experiment in International Living - Putney, Vt. - 1937
   2. Workshop in Human Relations - Rutgers 1947
   3. Encampment for Citizenship - Ethical Culture Society, New York City, 1948

B. Research Studies -
   1. Brunswik, Else Frenkel - A Study of Prejudice in Children
   2. Clark, Kenneth - Your Child and Prejudice
   3. Goodman, Mary E. - Race Awareness in Young Children
   4. Trager and Yarrow - They Learn What They Live

IV. Some Facts About Prejudice: It is
   A. A universal phenomena
   B. An historical phenomena
   C. A learned response
   D. Often related to personality structure
   E. A cause for serious mental disorders.

V. Current Concerns

A. Racism in America -
   1. Report of U.S. Civil Rights Commission
   2. Kerner Report
   3. West Chester - Cheyney (U.S. Office of Education)
   4. Facts, Fantasies, Myths: Black and White

5. Suggested Readings
   a. Association for Supervision & Curriculum Development: Racial Integration - Roads to Understanding, N.E.A. Washington, D.C.
   b. Baldwin, James, Notes of a Native Son
   c. Barbour, Floyd, The Black Power Revolt
   d. Barron, Milton, Minorities in a Changing World
   e. Bennett, Lorone, Before the Mayflower
   f. Cleaver, Eldridge, Soul on Ice
   g. Franklin, John Hope, From Slavery to Freedom
   h. Harris, Marvin, Patterns of Race in America
   i. Hentoff, Nat., Our Children Are Dying
   j. King, Martin L., Where Do We Go From Here: Chaos or Community
   k. Kozol, Jonathan, Death at an Early Age
   l. Malcolm X., Autobiography of Malcolm X
   m. Meier, A. From Plantation to Ghetto
   n. Miel, Alice, Shortchanged Children of Suburbia
   o. Osofsky, Gilbert, The Burden of Race
   p. Simpson, George, Racial & Cultural Minorities

B. Distortions in teaching - learning experiences
   1. Uni-racial curriculum
   2. Uni-racial texts
   3. Uni-racial bulletin boards-
   4. Uni-racial student body-
   5. Uni-racial faculty
   6. Distortions and omissions in U.S. history textbooks- (see: Stampp, Kenneth, The Negro in American History Textbooks - from Stampp report to California State Board of Education.-)

VI. Suggestions for Classroom Teachers

A. Examine your own prejudices -

B. Provide a variety of multi-ethnic experience to your class-
   1. First hand
      a. Speakers
      b. Related field trips
      c. Inter-visitations
   2. Vicarious
      a. Selected Films- (Fellowship Commission and Anti-De
      b. Literature - (particular care to include Afro-American writers)
      c. Records
      d. Bulletin Boards
      e. Role-playing

VII. Suggested Resources:

A. Afro-American Publishing Company
   1727 So. Indiana Avenue
   Chicago, Illinois 60616
   (24 Prints of Contemporary Afro-Americans)

B. Philadelphia Board of Education
21st & Parkway
Philadelphia, Pennsylvania 19103

1. Curriculum Office
   a. African Culture
   b. The Anthropology of Race (Sr. High)
   c. The Black Man and Mankind (Jr. High)
2. Office of Community Affairs
   a. Bibliography - multi-ethnic books for grades 9-12
   b. Bibliography - multi-ethnic books--grades Kdgn. - 8
3. Pedagogical Library
   Intergroup Bibliography

C. American Educational Publishers Institute
432 Park Avenue South,
New York, New York 10016
A Bibliography of Multi-ethnic Textbooks and Materials
(Grades Kindergarten - 12)

D. Center for Human Relations N.E.A.
1201 Sixteenth Street N.W.
Washington, D.C. 20036

E. Cook, David A and Co.
Elgin, Illinois
(Excellent inexpensive intergroup pictures for elem. grades)

F. Davis, Ossie, "The English Language Is My Enemy."
American Federation of Teachers
1012 14th Street N.W.
Washington, D.C.

G. Full Circle Associates
218 East 72nd Street
New York, New York 10021
(Excellent multi-ethnic pictures in senior high)

H. Free Library of Philadelphia
Logan Circle, Phila., Pa.

1. A listing of Scholarships in Black Students and Spanish - speaking Students
2. To Be Black in America
   (Bibliography In Secondary & Elementary Grades

I. Grambs, Jean D.
Intergroup Education, Methods and Materials
Prentice Hall, Englewood Cliffs, New Jersey
also B'nai Brith, A.D.L. 225 So. 15th Street
Philadelphia, Pennsylvania

J. National Council of Teachers of English:
We Build Together. A guide to Afro-American Literature for Elem. & Secondary Schools.

K. Pennsylvania Department of Education
Box 911, Harrisburg, Pa.

1. Minority History: What? Why? How?

2. Black Education - Where Do We Stand?

"No man is an island - no man stands alone
Each man's joy is joy to me
Each man's grief is my own
We need one another, so I will defend
Each man is my brother
Each man is my friend" - J. Donne

Prepared for: Student Teaching Practicum
West Chester State College
West Chester, Pennsylvania

by: Philip Hoggard, Associate Professor
in Education

Prepared by:
P. Hoggard, Supervisor
Student Teaching
West Chester State College

There are many agencies in Philadelphia that provide service in the fields of Intergroup Education. The following is a partial list of such agencies:

Fellowship House - 1521 W. Girard Avenue

Commission of Human Relations - Room 625, City Hall Annex

Nationality Service Center - 13th and Locust Streets

Philadelphia Fellowship Commission - 260 S. 15th Street

Citizens Committee on City Planning - 1717 Sansom Street

Philadelphia Housing Association - 1717 Sansom Street

Fellowship of Reconciliation - 2006 Walnut Street

Friends Neighborhood Guild - 8th and Fairmount Avenue

International House - 140 N. 15th Street

Jewish Community Relations Council - 260 S. 15th Street

Friends Social Order Committee - 1515 Cherry Street

Friends Committee on Race Relations - 1515 Cherry Street

Urban League of Philadelphia - 20 S. 12th Street

National Association for the Advancement of Colored People
Tri-County Office - 1 N. 13th Street

American Friends Service Committee - 160 N. 15th Street
(Indian Committee, Community Relations Division, Housing, Southern Programs: School Desegregation, Merit Employment, Housing.)

Anti-Defamation League of B'Nai B'rith - Lewis Tower Building
225 S. 15th Street

National Conference of Christians and Jews - 1211 Chestnut Street

Office of Integration and Intergroup Education - Board of Education
21st and Parkway

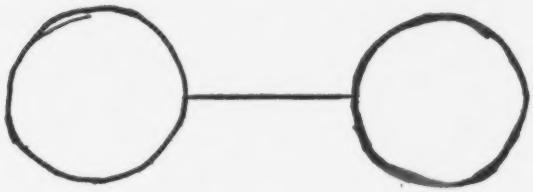
Human Relations Division for Roman Catholic Archdioceson School:
310 N. 19th Street, Philadelphia, Pa.

Friends of Student Non-Violent Coordinating Committee -
5926 Lancaster Avenue

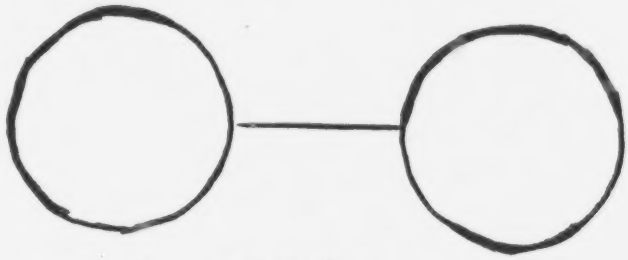
PERCEPTION CLINIC

Perception clinic demonstrates the dangers in stereotypes. It can be used with children in grades 5 through 12, as well as with adults. Discussion centers about questions like these -

Do we see only what we expect to see? Do we see only what we want to see? Do we attach too much importance to labels? How do we form "pictures in our mind"?

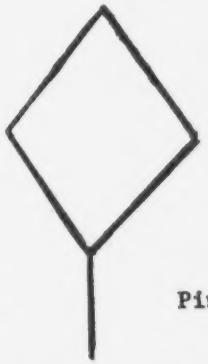


Eye Glasses

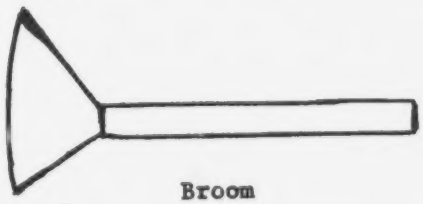


Dumb-Bell

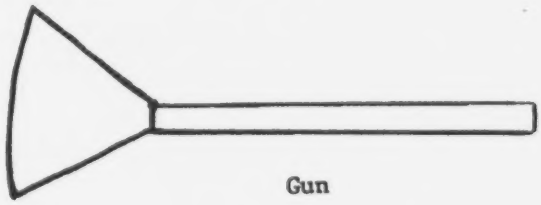
Trowel



Pine Tree



Broom



Gun

Canoe

Bone

from

The Quiet Crisis

by

Stewart Udall

I believe a leaf of grass is no less
than the journeywork of the stars,
And the pismire is equally perfect,
and a grain of sand, and the egg
of a wren,
And the tree-toad is a chef-d'oeuvre
for the highest,
And the running blackberry would
adorn the parlors of heaven,
And the narrowest hinge in my hand
puts to scorn all machinery,
And the cow crunching with depress'd
head surpasses any statue,
And a mouse is miracle enough to
stagger sextillions of infidels!
Walt Whitman "Song of Myself"

In the dust where we have buried
the silent races and their
abominations we have buried
so much of the delicate magic
of life.
- D. H. Lawrence (at Taos)

It was all prices to them:
they never looked at it:
why should they look at the land?
they were Empire Builders:
it was all in the bid
and the asked
and the ink on their books . . .
Archibald MacLeish
"Wildwest"

We abuse land
because
we regard it
as a commodity
belonging
to us.
When we see land
as a community
to which
we belong,
we may begin
to use it
with love
and respect.
Aldo Leopold
A Sand County Almanac

There is an eagle in me
and a mockingbird . . .
and the eagle flies
among the Rocky Mountains
of my dreams
and fights
among the Sierra crags
of what I want . . .
and the mockingbird warbles
in the early forenoon
before the dew is gone,
warbles
in the underbrush
of the Chattanoogas of hope,
gushes over the blue Ozark
of my wishes
and I got the eagle
and the mockingbird
from the wilderness.
Carl Sandburg
"Wilderness"

Embosomed for a season in nature,
whose floods of life
stream around and through us,
and invite us,
by the powers they supply,
to action proportioned to nature,
why should we grope among the dry bones
of the past . . .?
In the woods is perpetual youth . . .
In the woods,
we return to reason and faith.
There I feel that nothing can befall me
in life,
no disgrace,
no calamity . . .
which nature can not repair . . .
the currents of the Universal Being
circulate through me;
I am part or parcel of God.

Ralph Waldo Emerson

Climb the mountains
and get their good tidings.
Nature's peace will flow
into you
as sunshine
flows into trees.
The winds will blow
their own freshness
into you
and the storms their energy,
while
cares will drop off
like autumn leaves.

John Muir

Men now begin to realize
what as wandering shepherds
they had before dimly suspected,
that man has a right to the use,
not the abuse,
of the products of nature;
that consumption should everywhere
compensate by increased production;
and that it is a false economy
to encroach upon a capital,
the interest of which is sufficient
for our fawful uses.
George Perkins Marsh, 1847.

In the woods,
we return
to
reason and faith.
- Emerson

Conservation . . .
can be defined as
the wise use of our natural environment:
it is, in the final analysis,
the highest form of national thrift -
the prevention of waste and despoilment
while
preserving,
improving,
and
renewing
the quality and usefulness of
all our resources.
President John F. Kennedy
Message to Congress 1962

Go play with the towns you have built of blocks,
The towns where you would have bound me!
I sleep in my earth like a tired fox,
And my buffalo have found me.

- Stephen Vincent Benet
The Ballad of William Sycamore
1790 - 1871

A town is saved,
not more by the righteous men in it
than by the woods and swamps that
surround it. Thoreau

The land was ours
before
we were the land's
Robert Frost

When Daniel Boone goes by,
at night
The phantom deer arise
And all lost, wild America
Is burning in their eyes.
Stephen Vincent Benet

Who would not rise
to meet
the expectation
of the land?

Henry David Thoreau

Those are richest whose
pleasures are cheapest.

It is the poet . . .
who makes the truest use of pine.
Every creature is better alive
than dead,
men and moose, and pine trees,
and he who understands
it aright
will rather preserve its life
than destroy it . . .
Poor shad, where is thy redress . . .
who hears the fishes
when they cry?
Henry David Thoreau

. . . Through all the wonderful,
eventful centuries
since Christ's time -
and long before that
God has cared for these trees,
saved them from
drought,
disease,
avalanches,
and
a thousand straining, leveling
tempests and
floods;
but
he can not save them from
fools
only
Uncle Sam
can do that.
John Muir

Proud, cruel, everchanging
and ephemeral city
To whom we came once
when our hearts were high,
Our blood passionate and hot,
Our brain a particle of fire:
Infinite and mutable city,
mercurial city,
Strange citadel of million-
visaged time -
O endless river and
eternal rock,
In which the forms of life
Came, passed, and changed
intolerably before us!
And which we came,
as every youth has come,
With such enormous madness,
And with so mad a hope -
For what? . . .

Thomas Wolfe
The Ghosts of Time

One of the paradoxes of
American society
IS
that while our economic
standard of living
has become
the envy of the world,
our environmental standard
has
steadily declined.

Stewart Udall

APPENDIX VII

APPENDIX VIII

ey: M: Most of the time
P: Part of the time
N: Not yet

E_____

DATE_____

Technical Skills

A. The student teacher uses the skill of establishing set
B. The student teacher uses the skill of reinforcement
C. The student teacher uses the skill of probing in
   1. Clarification
   2. Increasing critical awareness
   3. Refocusing
   4. Prompting
   5. Redirection
D. The student teacher uses skill varying the stimulus situation by utilizing at least the following:
   1. Gesture
   2. Movement
   3. Focusing
   4. Shifting interaction styles
   5. Pausing
   6. Shifting Sensory channels
E. The student teacher uses the skill of closure.

Social - Emotional Climate

A. The student teacher makes sure there are as few aversive conditions present as possible while the learner is in the presence of the subject being taught.

APPENDIX IX

EVALUATING VALUE SHEETS

Part 1 --- Scheme for Evaluating Lesson Plans

Below are five basic areas which you can use to evaluate your value sheets. You will note that there are three positions on the continuum. Position one is considered higher than position three. As you reread your plans and come to understand the coding, we hope you will constantly be thinking of ways to lift your ideas increasingly towards the "one" end of the continuum.

T. TOPIC

1. You have a real live topic and a problem that students are aware of or may easily be made aware of. The topic is likely to touch many students deeply.

2. A mildly live topic, probably of some concern to some students.

3. A topic that may provide some intellectual exercise, but that probably will not penetrate the lives of most students very much.

TH. THINKING

1. Excellent thinking is stimulated here. Plenty of opportunity for reflection is included.

2. Some thinking, but could use more.

3. Routine, rote, or simple responses from students are likely, no real mental exertion demanded.

ALT. ALTERNATIVES

1. You have made provisions, broadly, for a consideration of alternatives. Student value-indicators have been elicited consistently.

2. Some consideration of alternatives has been indicated, but student opportunity to examine a wide range of alternatives needs to be increased.

3. This sheet does not adequately involve students in a broad enough consideration of the alternatives available for action or valuing.

A. ACTION

1. This sheet hits squarely at some present (or near future) action implication. Student behavior will probably change as a result of this lesson. It seems destined to make a real difference in their lives.

2. Some relevance to action here, but the students need to be made more conscious of the behavioral consequences of the lesson, more sensitive to what they can do about it.

3. This sheet may provide intellectual exercise, but it probably will make little difference in the students' lives. Frankly, you are probably wasting your time and theirs.

B. PENETRATION

1. This topic is handled so that it really penetrates deeply. It touches the emotions, the hidden parts of us, perhaps painfully, but productively.

2. Some penetration, but could be sharper and stronger.

3. Bland, conventional, ambivalent, superficial treatment. Can easily be handled off the top-of-the-head, whereas values cannot be.

Part 2 --- Looking at Specific Questions

As you begin using some of the value sheets in this book, it is hoped you will begin to consider making your own. Drawing up the questions will become easier if you view your questions within the framework of the statements below. Code a few of our sheets, with the letter codes in the left-hand margin. It is good practice for making up your own sheets.

Letter Code		Working at Specific Questions
Q	Question narrow:	This is a question for which there is only one answer.
Th	Thinking:	This should stimulate real thinking.
Pr	Problem:	You have identified a real problem here. Good.
M	Moralizing:	Watch it. Moralizing can too easily follow. It puts forth your values and tends to encourage dependency.

Letter Code		Working at Specific Questions
CT	Changed topic:	Here you are going in a new direction before adequately developing the previous emphasis.
INT	Intellectuality:	Provides good intellectual exercise, but probably no real penetration into students' lives. You need to lift this toward reality and toward action.
E	Enough is enough:	You are probably overdoing this point. Pushing too hard may just build up more resistance.
CR	Criticism:	Either direct or implied, criticism rides the rails of this question or statement. Is there another way of getting at your point?
V-C	Value-Clarification:	This will most likely advance the process of clarifying values.
A	Action:	This makes a significant bid for some action to grow out of the lesson.
SW	So what?:	I'm afraid that this produces a "so what" in the reader of your plan and may well do the same with a class. It just doesn't seem to matter.

WEEKLY REACTION SHEETS

A time to sit down and look back very systematically at the week just lived is helpful to value growth. Many youngsters are surprised to see the absence of activities which are personally selected and satisfying over the seven-day span, and some may come to question just how many weeks have passed in this manner.

To supplement the non-directive thought sheet, sometimes a weekly reaction sheet is introduced about midway in the term. Five copies are passed out to each student, and he is asked to fill out one for each of the next five weeks, sometimes in substitution for the thought sheet. Among the questions which we have included on weekly reaction sheets are:

1. *Did you act on any of your values this week? What did you do?*
2. *Did you do anything this week which required more than three solid hours?*
3. *What, if anything, did you do this week of which you are proud?*
4. *Did you work on any plans this week for some future experiences you hope to have?*
5. *List one or two ways in which the week could have been better?*
6. *Were you in emphatic agreement or disagreement with anyone this week?*
7. *What did you learn this week, in or out of school, that you are likely to use in your later life?*
8. *What did you do this week that made you very happy?*
9. *What was the best day of the past week? What made it the best?*
10. *Are you happy with the way you spend your weekends? How could you improve them?*
11. *Identify three choices you made during the week?*
12. *Were there important contradictions or inconsistencies in your week?*
13. *How was this week different from the previous week?*

A teacher would need to select from among this list and, of course, include other questions he feels would encourage the process of value clarification, one would not use thirteen questions at one time.

A point of view

College Professor:
Such rawness in a pupil is a shame
Lack of preparation in the High School is to blame.

High School Teacher:
Good Heavens, what crudity, the boy's a fool
The fault, of course, is in the grammer school.

Grammer School:
From such stupidity may I be spared.
They send them to me so unprepared.

Primary Teacher:
Kindergarten blockhead! And they call
That preparation. Worse than none at all.

Kindergarten Teacher:
Such lack of training never did I see;
What kind of woman must the mother be!

The Mother:
Poor helpless child - he's not to blame,
His father's people are all the same.

Source Unknown

MERRY-GO-ROUND

Where is the Jim Crow section
On this merry-go-round, Mister,
Cause I want to ride?
Down South where I come from
White and colored
Can't sit side by side.
Down South on the train
There's a Jim Crow car.
On the bus we're put in back--
But there ain't no back
to a merry-go-round!
Where's the horse
For a kid that's black?

1. Merry-Go-Round

   a. When was the last time you were on a merry-go-round?

   b. If you happened to be in line and overheard the incident which takes place in the poem, is there anything <u>you</u> might have said to that little boy?

   c. Have you ever experienced anything similar to that boy's feelings?

   d. What prejudice, subtle or otherwise, have you ever personally faced?

   e. If you wanted to do something about the problem of "civil rights," what are some things you could do?

      (1) Right in this school, through some school group.
      (2) In your town, with some community organization.
      (3) On the national level.

   f. Perhaps you believe that nothing needs to be done about this problem. If so, state that position clearly and forcefully.

DISCRIMINATION

1. Make a list of all the persons who come to your house to visit or to eat. Make a second list of all those whose homes you visit on occasion.

2. Note how many in each list are relatives, how many are beyond walking distance, and how many you really are very happy to visit with.

3. Calculate the proportion of your lists made up of relatives, etc.

4. Look at your lists again. If you are, say, white, Protestant, and middle class, how many on your lists are white, Protestant, and middle class? If you are Negro and working class, how many on your list are Negro and working class? If you are Irish, how many on your list are Irish? That is, how many on your lists are in much the same groups as you are in?

5. What is the difference between segregation and integration?

6. Would you like your lives to be more integrated? If so, what can you do about it?

7. Will you do anything? Can I help? Will you let us know?

"In Germany they first came for the Communists, and I didn't speak up because I wasn't a Communist. Then they came for the Jews, and I didn't speak up because I wasn't a Jew. Then they came for the trade unionists, and I didn't speak up because I wasn't a trade unionist. Then they came for the Catholics, and I didn't speak up because I was a Protestant. Then they came for me-----and by that time no one was left to speak up." ---- Pastor Martin Niemoller.

a. In a few words, what is the central meaning of this statement?

b. What is the Pastor <u>for</u> and what is he <u>against</u>?

c. Which category are <u>you</u> in? When would they have come for you?

d. What are some things going on in our world right now about which you might need to speak up? List them here ----

e. How do you think one goes about speaking up? How do you do it: What are the ways?

f. Could you pick something you listed in <u>d</u> above and work out a strategy by which you could, indeed, speak up for it?

g. Is there something in your school, some "injustice," about which you could well speak up?

h. If you are to speak up, who should do it?

i. Why stick your neck out? Why not?

j. We need to <u>value</u> what we do and to <u>do</u> something about what we value. Do you agree? If so, when was the last time you acted upon one of your values?

COURAGE

"Courage is generosity of the highest order, for the brave are prodigal of the most precious things." -- C.C. Colton

"True courage is to do without witness everything that one is capable of doing before all the world." -- La Rochefoucauld.

"Courage is like love: It must have hope to nourish it." -- Napoleon Bonaparte.

"Courage leads starward, fear toward death." -- Seneca.

"Brave men are brave from the first." -- Corneille.

"The courage of the tiger is one, and the horse another." -- Ralph Waldo Emerson.

"Ultimate bravery is courage of the mind." -- H.G. Wells.

"Grace under pressure." -- Ernest Hemingway.

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1. What does the word "courage" mean to you?
2. Do you think courage manifests itself? How?
3. Do you think everyone possesses courage? How? If not, why?
4. Are you proud of your level of courage? Discuss.